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Guide to the Scientists and Engineers in Economic Development Program



NATIONAL SCIENCE FOUNDATION

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Guide to the
Scientists and Engineers in
Economic Development
Program

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E.J. Zielinski

Submitted to: Division of International Programs
National Science Foundation
Washington, DC 20550

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The contents of the guide are the responsibility of the author and do not necessarily represent the views of the National Science Foundation.

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Introduction

The National Science Foundation (NSF) is the principal federal government agency responsible for advancing scientific progress in the United States. Because science is a worldwide enterprise whose vigor can only be maintained through international cooperation, NSF is authorized to engage in international scientific activities.

More than two decades ago, NSF established a separate organizational unit for international programs. The present Division of International Programs (INT) annually supports U.S. participation in approximately 300 cooperative scientific projects with more than 40 foreign countries. These activities help meet the needs of U.S. scientists and scientific institutions for cooperation with foreign counterparts.

The Scientists and Engineers in Economic Development (SEED) program was established in 1971 by NSF. It was designed as an experimental project, and funded by the U.S. Agency for International Development (AID) through an interagency transfer of funds to NSF. SEED tested the concept of individual U.S. university researchers working with counterparts in developing countries on projects that contributed to development through improvements in science and engineering infrastructure. The SEED program sought to stimulate more effective coupling of research and education in science with development priorities in less developed countries. The experiment ended in 1980.

This volume represents an attempt to provide a comprehensive guide to SEED awards granted by NSF since the program's initiation. Provided in this document are names and addresses of principal investigators and their foreign hosts, participant countries, award numbers, abstracts of accomplishments made possible by the SEED grants, and publications resulting from these awards.

This information was obtained from several sources, including project summaries, final project reports, international travel reports, interviews with foreign counterparts, and a survey of U.S. participants in the SEED program. A companion volume, Evaluative Study of the Scientists and Engineers in Economic Development Program: Survey Report, describes the results of this survey. It is available from the NSF Division of International Programs.

The guide is intended to promote use of SEED project results and further understanding of the role of science and engineering in development. For further information on the SEED program or to provide feedback on this guide, please write to Dr. Carole Ganz, Division of International Programs, National Science Foundation, Washington, DC 20050.

How to Use This Guide

This document is comprised of two sections--the project summaries and the indexes. Project summaries are arranged by country and year of project award. Within each year, they appear alphabetically under the principal investigator's last name. Summaries are provided for each project using the following format:

Summary Number		
XX		
Country Visited	Award Number and Date	Subject Area
Nigeria	OIP76-10718-R/T [1976]	Engineering Management
Principal Investigator		Foreign Host
Carl Barus Department of Engineering Swarthmore College Swarthmore, Pennsylvania 19081		M.O. Chijioka, Rector Institute of Management and Technology Private Mail Bag 1079 Enugu, Nigeria

Abstract

Assisted in designing and implementing new curriculum in engineering management while serving as visiting professor.

Publications

Barus, Carl. "Nuclear Electric Power and Nigeria," Mantech: Journal of Institute of Management and Technology 1(2), March 1977.

Summary Number: Number assigned to summary according to its sequence in guide.

Country Visited: Country, countries, or geographic region in which project activity supported under award took place.

Award Number and Date: Identification code assigned to grant by National Science Foundation (NSF). The letters following number indicate type of grant: R/T = research and/or teaching grant; T = travel award. (R/T grants are generally longer term than T awards.)

Subject Area: Central focus of research.

Principal Investigator: U.S. scientist to whom award was made, and his or her institutional affiliation at time of award.

Foreign Host: Foreign scientist(s) and institutional affiliate(s) with whom principal investigator cooperated.

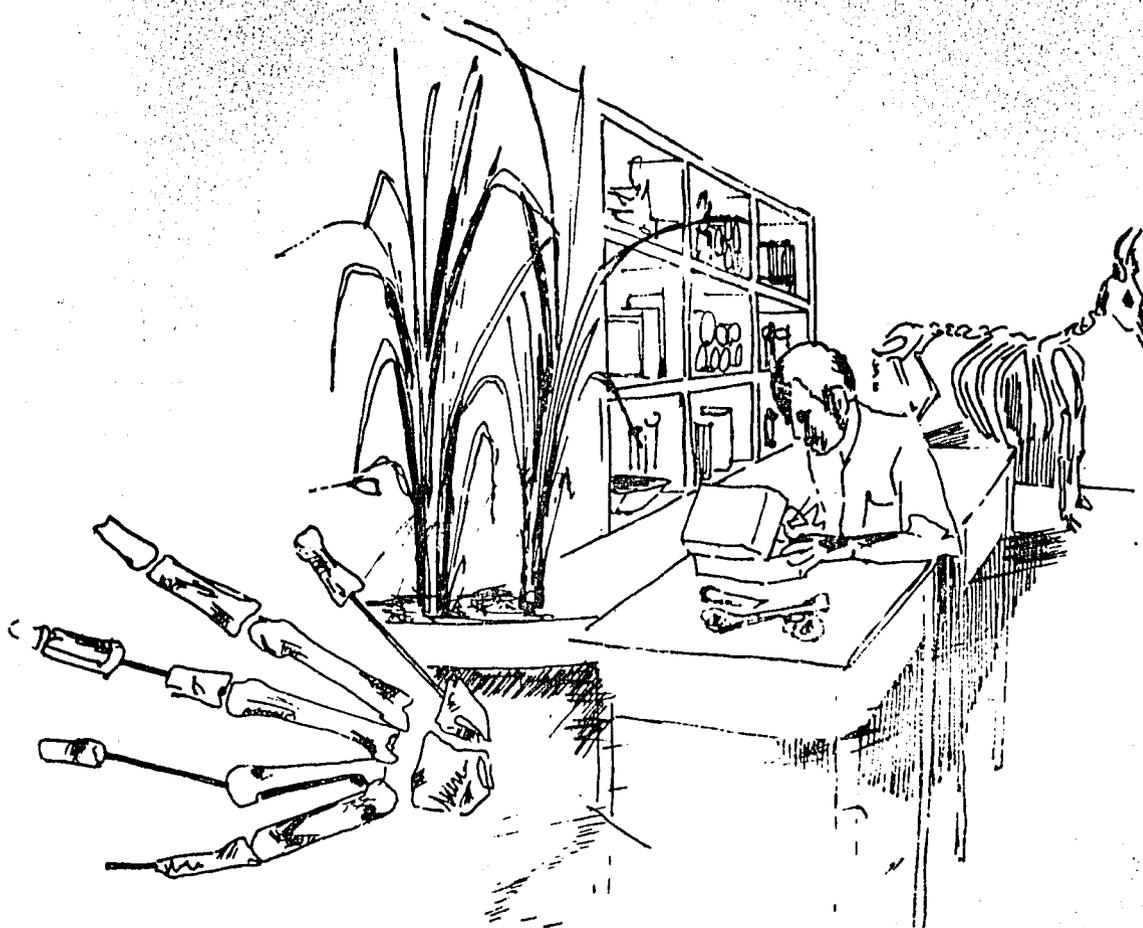
Abstract: Brief summary of activities supported.

Publications: Published materials directly or indirectly attributed to SEED grant. Publications are selective, rather than exhaustive.

There are several indexes at the end of this guide: Geographic Region, Subject, U.S. Principal Investigator, Foreign Host, U.S. Institution, Foreign Institution, and Current Addresses of SEED Grantees. If there is no mention of a particular principal investigator in the Current Addresses index, it may be assumed that the address has not changed since the time of the award.

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Africa



1

Ethiopia

Travel [1973]

Environmental Science

Karl Dittmer
College of Science
Portland State University
Portland, Oregon 97207

Haile Sellassie I. University
Addis Ababa, Ethiopia

Presented lectures and held discussions on preservation of environmental quality.

2

Ethiopia

INT77-07747-R/T [1977]

Soil Microbiology

Purna Chandra
Department of Biology
Lake Superior State College
Saulte Ste. Marie, Michigan 49783

Ephraim Mamo
College of Agriculture
Alemaya, Ethiopia

Conducted research on influence of microbial flora on soil productivity. Taught courses in soils and environmental biology. Offered seminar program for faculty and upper-level students. Assisted in reorganizing soils laboratory at College of Agriculture.

3

Ghana

OIP74-13633-R/T [1974]

Soil Science

Kandiah Arulanandan
Department of Civil
Engineering
University of California-
Davis
Davis, California 95616

J.W.S. de Graft Johnson
Building and Road
Research Institute
University P.O. Box 40
Kumasi, Ghana

University of Science
and Technology
Kumasi, Ghana

Collaborated on developing surface water runoff models for predicting soil erodibility. Developed monographs portraying factors influencing erosion. Demonstrated use of dielectric dispersion and electrical conductivity in characterizing soils.

Ghana

4

Ghana

OIP75-09248-T [1975]

Education

Peter Z. Bulkeley
College of Engineering and Technology
Bradley University
Peoria, Illinois 61625

E. Bamfo Kwakye
Vice Chancellor
University of Science and Technology
Kumasi, Ghana

Explored possible arrangements for long-term educational liaison between Bradley University and University of Science and Technology.

5

Ghana

INT78-00374-T [1978]

Solar Energy

William A. Gross
Department of Mechanical Engineering
University of New Mexico-Albuquerque
University Hill, NE
Albuquerque, New Mexico 87131

J.S. Powell, Director
Technology Consultancy Center
University of Science and Technology
University Post Office
Kumasi, Ghana

Identified possible collaborative research projects. Assisted in installing solar water heater. Presented lecture on solar energy developments in New Mexico. Studied performance and experience of Technology Consultancy Center.

6

Ghana

INT80-17213-R/T [1980]

Mineralogy

K. Osseo-Asare
Pennsylvania State
University
207 Old Main Building
University Park,
Pennsylvania 16802

Department of Geology
University of Ghana
Legon, Ghana

Institute of Mining and
Mineral Engineering
University of Science and
Technology
Kumasi, Ghana

Investigated process mineralogy and hydrometallurgy of refractory carbonaceous and pyritic gold ores. Conducted research on characterization and chemical behavior of carbonaceous material, on roasting-cyanidation characteristics, and on electrochemical polarization with impure gold electrodes.

7

Kenya

P3F0138-R/T [1973]

Highway Design

Mathew J. Betz
 Department of Engineering
 Arizona State University
 Tempe, Arizona 85281

R. Jones, Chair
 Department of Civil Engineering
 University of Nairobi
 P.O. Box 30197
 Nairobi, Kenya

Reviewed continuation and implementation of Kenya Road Study on road user costs, maintenance costs, and road deterioration. Taught courses in highway planning and economics and traffic engineering. Developed graduate programs.

Betz, Mathew J. "Appropriate Technology: Focus on Africa," International Study Notes 6(2):13-16, (International Studies Association, Lincoln, Nebraska), Summer 1979.

8

Kenya

P3F034609-R/T [1973]

Ecology

Charles A. Sleicher
 Department of Chemical Engineering
 University of Washington
 Seattle, Washington 98195

Thomas Odhiambo, Director
 International Center of Insect
 Physiology and Ecology
 P.O. Box 30772
 Nairobi, Kenya

Initiated program for monitoring pesticides in the environment.

Sleicher, Charles A. "DDT Persistence in Surface Soil Near Lake Nakuru, Kenya," no date.

9

Kenya

OIP74-10323-R/T [1974]

Fish Pollution

Donald W. Johnson
 Department of Biology
 Idaho State University
 Pocatello, Idaho 83201

M. Hyder
 Department of Zoology
 University of Nairobi
 Chiromo Campus, P.O. Box 20197
 Nairobi, Kenya

Studied predominant water pollutants and their levels in waters supporting or capable of supporting economically important fisheries. Studied impact of pollutants on fish production.

Kenya

10

Kenya

OIP74-12314-R/T [1974]

Artificial Insemination

Charles Norman
Department of Biology
West Virginia University
Morgantown, West Virginia 26505

G.N.O. Maloly, Head
and Samson Gombe
Department of Animal Physiology
University of Nairobi
P.O. Box 30197
Nairobi, Kenya

Conducted study of sperm ability to survive and retain fertilizability for extended periods by applying eugenics to artificially bred highly productive dairy cattle.

Norman, Charles and Gombe, Samson. "Stimulatory Effect of the Lysosomal Stabilizer, Chloroquine, on the Respiration and Motility of Fresh and Aged Bovine Spermatozoa," Journal of Reproduction and Fertility 44:481-486, 1975.

11

Kenya

OIP74-09604-R/T [1974]

Plant Physiology

Larry L. Tiezen
Department of Biology
Augustana College
Sioux Falls,
South Dakota 57197

S.K. Imbamba, Chair
Department of Botany
University of Nairobi
Chiromo Campus
P.O. Box 20197
Nairobi, Kenya

D. Kumar, Head
Crop Physiology
Coffee Research Foundation
P.O. Box 4
Ruiru, Kenya

Initiated research on improving drought resistance of finger millet, an important local food crop. Presented lectures on plant environmental physiology. Conducted seminar on photosynthesis and primary production.

12

Kenya

OIP75-08730-R/T [1975]

Fish Pollutants

Donald W. Johnson
Department of Biology
Idaho State University
Pocatello, Idaho 83201

Gecaga Institute of Tropical
Comparative Endocrinology
University of Nairobi
Nairobi, Kenya

J. Rhine
East African Freshwater
Research Organization
Kisumu, Kenya

Continued study of predominant pollutants and their impact on economically important fisheries.

13

Kenya

OIP75-09870-T [1975]

Ecology

Charles A. Sleicher
Department of Chemical Engineering
University of Washington
Seattle, Washington 98195

Shem Wondiga
Department of Chemistry
University of Nairobi
P.O. Box 30197
Nairobi, Kenya

Followed up 1972-73 visit and assessed progress of pesticide monitoring made since then. Participated in further evaluating pesticide residue in Kenyan national parks. Provided consultation on programs for monitoring pesticides in the environment. Acquired soil and animal tissue samples for pesticide residue analysis.

14

Kenya

OIP76-10462-R/T [1976]

Development Studies

Marshall H. Segall
Maxwell Program in Foreign and
Comparative Studies
Syracuse University
712 Ostrom Avenue
Syracuse, New York 13210

P.N. Hopraft, Acting Director
Institute for Development Studies
and Albert Malechi, Director
Bureau of Educational Research
University of Nairobi
P.O. Box 30197
Nairobi, Kenya

Conducted study of dietary practices, nutritional and general health status of children, and parental family planning attitudes among two rural-dwelling ethnic groups (Gusii and Meru). Collected data pertaining to diet, child health, fertility history, and family planning attitudes.

15

Kenya

INT76-82012-T [1976]

Plant Physiology

Larry L. Tieszen
Department of Biology
Augustana College
Sioux Falls,
South Dakota 57197

S.K. Imbamba, Chair
Department of Botany
University of Nairobi
Chiromo Campus
P.O. Box 20197
Nairobi, Kenya

D. Kumar, Head
Crop Physiology
Coffee Research Foundation
P.O. Box 4
Ruiru, Kenya

Reviewed ongoing plant environmental physiology research initiated during 1974 visit. Collaborated on various manuscripts and explored feasibility of future collaborative research on ecological consequences of photosynthetic systems.

Kenya

Tieszen, Larry L. and Imbamba, S.K. "Photosynthetic Systems and Their Significance in East African Ecology and Agriculture," Promotion of Science and Technology 11:24-28, 1976.

Kumar, D. and Tieszen, Larry L. "Some Aspects of Photosynthesis and Related Processes in Coffee Arabica L.," Kenya Coffee 41:309-315, 1976.

Imbamba, S.K. and Tieszen, Larry L. "Influence of Light and Temperature in Some C₃ and C₄ Vegetable Plants from Kenya, East Africa," Physiologia Plantarum 39:311-316, 1977.

Tieszen, Larry L. and Imbamba, S.K. "Gas Exchange of Finger Millet (Eleusine Coracana) Inflorescences," Crop Science 18:495-498, 1978.

Tieszen, Larry, Senyimba, M.M., Imbamba, S.K., and Troughton, J.H. "The Distribution of C₃ and C₄ Grasses and Carbon Isotope Discrimination Along an Altitudinal and Moisture Gradient in Kenya," Oecologia 37:337-350, 1979.

Kumar, D. and Tieszen, Larry. "Photosynthesis in Coffee Arabica L. I. Effects of Light and Temperature," Journal of Experimental Agriculture 16:13-19, 1979.

Kumar, D. and Tieszen, Larry. "Photosynthesis in Coffee Arabica L. II. Effects of Water Stress," Journal of Experimental Agriculture 16:21-27, 1979.

Tieszen, Larry L., Hein, D., Overtrup, A.A., Troughton, J.H. and Imbamba, S.K. "Use of ¹³C Values to Determine Vegetation Selectivity in East African Herbivores," Oecologia 37:351-359, 1979.

16

Kenya

INT79-20900-T [1979]

Geology and Mining

Joseph J. Finney, Head
Department of Geology and
Ecological Engineering
Colorado School of Mines
Golden, Colorado 80401

L.Y.O. Owayo
Chief Mining Engineer
Commissioner of Mines and Geology
P.O. Box 30009, Machakos Road
Nairobi, Kenya

Assisted in revising and upgrading geology education programs, particularly in the areas of mineral exploration, geochemistry, and hydrology. Examined curriculum and faculty at undergraduate and graduate levels. Provided consultation on apparent weaknesses in education system and suggested solutions.

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Kenya	INT79-20644-R/T [1979]	Herbivores
Norman R. French and R. Hanson Department of Ecology Colorado State University Fort Collins, Colorado 80523	D.K. Andere Kenya Rangeland Ecological Monitoring Unit P.O. Box 47146 Nairobi, Kenya	Steve Cobb Department of Zoology University of Nairobi P.O. Box 20197 Nairobi, Kenya

Analyzed diets of small herbivorous vertebrates and invertebrates of rangelands. Compared analysis to existing data on diets of native ungulates. Evaluated overlap and competition among herbivore populations in order to improve management and production of animal protein. Identified plant species in diets of small herbivores. Utilized computer programs to analyze diet overlap data.

18

Kenya	INT79-19841-T [1979]	Meteorology
Stephan Hastenrath Department of Meteorology University of Wisconsin- Madison 1225 West Dayton Street Madison, Wisconsin 53706	S. Tewungwa, Director General East African Community Meteorological Department P.O. Box 30299 Nairobi, Kenya	D. Odhiambo Deputy Vice Chancellor University of Nairobi P.O. Box 20197 Nairobi, Kenya

Took readings at network of net balance stakes installed on Lewis Glacier. Conducted stratigraphic studies of ice pits. Monitored ice movement and changes in surface topography. Measured precipitation regularly.

Hastenrath, Stephan, Thompson, L., and Morales Arnao, B. "Climatic Ice Core Records from the Tropical Quelccaya Ice Cap," Science 203:1240-1243, 1979.

Hastenrath, Stephan and Caukwell, R.A. "Variations of Lewis Glacier, Mount Kenya, 1974-1978," Erdkunde 33:292-297, 1979.

Kenya

19

Kenya

INT79-21103-T [1979]

Limnology

John M. Melack
Department of Biological Sciences
University of California-Santa Barbara
Santa Barbara, California 93106

S.K. Imbamba, Chair
Department of Biology
University of Nairobi
Chiromo Campus, P.O. Box 20197
Nairobi, Kenya

Conducted nutrient bioassay experiments and nitrogen fixation measurements in exceptionally productive Kenyan soda lakes. Assisted in planning tropical limnology training course. Advised graduate students interested in limnology. Planned collaborative research on freshwater and saline lakes. Attended African limnology workshop.

Melack, John M. "Community Metabolism and Diel Oxygen Changes in Kenyan Soda Lakes." Presented at the S.I.L. Workshop on African Limnology (Nairobi), December 1979.

Melack, John M. "Photosynthesis and Growth of Spirulina Platensis (Cyanophyta) in an Equatorial Lake (Lake Simbi, Kenya)," Limnology and Oceanography 24:753-760, 1979.

Melack, John M. "Photosynthetic Rates and Population Dynamics of Phytoplankton in Kenyan Soda Lakes." Presented at the S.I.L. Workshop on African Limnology (Nairobi), December 1979.

Melack, John M. "Photosynthetic Rates in Four Tropical African Fresh Waters," Freshwater Biology 9:555-571, 1979.

Melack, John M. and Gaudet, J.J. "Solute and Water Budgets in a Tropical African Lake (Lake Naivasha, Kenya)." Presented at the 42nd Meeting of the American Society of Limnology and Oceanography, June 1979.

Melack, John M. "Temporal Variability of Phytoplankton in Tropical Lakes," Oecologia 44:1-7, 1979.

20

Kenya

INT79-20374-R/T [1979]

Microcomputer Technology

J.D. Thompson
Department of Physics
Augustana College
P.O. Box 30197
Sioux Falls, South Dakota 57197

Otieno Malo, Chair
and W.H. Drake
Department of Physics
University of Nairobi
P.O. Box 30197
Nairobi, Kenya

Developed local capabilities in using microcomputer technology at faculty and student levels. Integrated microcomputer technology into curriculum and research. Redesigned electronics curriculum and laboratory.

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21

Kenya

INT80-24683-R/T [1980]

Monsoons

Donald R. Johnson
Old Dominion University
P.O. Box 6369
Norfolk, Virginia 23508

Daniel Munga
and Ted Kimani
Department of Fisheries
Government of Kenya
Kenya

Collaborated on joint analysis of monsoon experiment data. Mapped flow and hydrographic fields during evolution of monsoon season. Explored relevance of environmental background to Kenya's economic development. Published findings and explored channels for future collaboration.

22

Nigeria

P3F0166-R/T [1973]

Geology

Joseph W. Mills
Department of Geology
Washington State University
Pullman, Washington 99164

M.O. Oyawaye, Head
Department of Geology
University of Ibadan
Ibadan, Nigeria

Initiated geologic mapping program and laboratory investigation of rocks and ores. Trained graduate students in selection, planning, and execution of research studies.

23

Nigeria

OIP74-09666-T [1974]

Geography

Michael L. McNulty
Department of Geography
University of Iowa
Iowa City, Iowa 52240

S.O. Onakomaiya
Nigerian Institute of Social
and Economic Research
Nigeria

Alkin L. Mabogunje, Head
Department of Geography
University of Ibadan
Ibadan, Nigeria

Developed coordinated research and instructional program in urban and regional planning.

McNulty, Michael L. and Horton, Frank E. "A Strategy for Co-ordinating Human and Technical Resources in Planning: The Lagos-Ibadan Corridor." In: El-Shakhs, S. and Obudho, Robert, eds., Urbanization, National Development and Regional Planning in Africa. New York: Praeger, 1974.

Nigeria

24

Nigeria

OIP75-04163-R/1 [1975]
OIP75-11206-T [1975]

Chemistry

Walter Kauzmann
Department of Chemistry
Princeton University
Princeton, New Jersey 08540

John Beetlestone, Chair
Department of Chemistry
University of Ibadan
Ibadan, Nigeria

Taught course and presented seminars on chemistry. Reviewed instructional programs and participated in ongoing research. Presented lectures on thermodynamics. Introduced dilatometer to laboratory. Conducted research and provided consultation on properties and structure of liquid water.

Kauzmann, Walter. "Pressure Effects on Water and the Validity of Theories of Water Behavior." In: Afsen, A., ed., L'eau et les systemes biologiques. 1976, pp. 63-71.

Kauzmann, Walter, Ogunmola, G.B., and Zipp, A. "Volume Changes in Binding of Ligands to Methemoglobin and Metmyoglobin." In: Proceedings of the National Academy of Sciences 73:4271-4273, 1976.

Kauzmann, Walter, Ogunmola, G.B., Zipp, A., and Chen, F. "Effects of Pressure on Visible Spectra of Complexes of Myoglobin, Hemoglobin, Cytochrome C., and Horse Radish Peroxidase." In: Proceedings of the National Academy of Sciences 74(1):1-4, 1977.

Kauzmann, Walter and Kim, K. "The Concentration Dependence of the Specific Volumes of Human Oxyhemoglobin, Bovine Serum Albumin and Ovalbumin Solutions," Journal of Physical Chemistry 84:163-165, 1980.

25

Nigeria

OIP75-08736-T [1975]

Mineralogy

Joseph W. Mills
Department of Geology
Washington State University
Pullman, Washington 99164

M.O. Oyawaye, Head
Department of Geology
University of Ibadan
Ibadan, Nigeria

Extended collaborative study of lead-zinc and tin-zinc minerals.

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Nigeria

OIP75-07918-T [1975]

Science

Michael J. Moravcsik
Institute of Theoretical
Science
University of Oregon
Eugene, Oregon 97403

Olumuyiwa Awe, Head
Department of Physics
University of Ibadan
Ibadan, Nigeria

C.I.O. Olaniyan
Department of Zoology
School of Biological
Sciences
University of Lagos
Lagos, Nigeria

Presented lectures and provided consultation on science, science education, and science policy.

Moravcsik, Michael J. "How to Close the Development Gap," Technos, 1980

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Nigeria

OIP76-10718-R/T [1976]

Engineering Management

Carl Barus
Department of Engineering
Swarthmore College
College Avenue
Swarthmore, Pennsylvania 19081

M.O. Chijioke, Rector
Institute of Management and Technology
Private Mail Bag 1079
Enugu, Nigeria

Assisted in designing and implementing new curriculum in engineering management while serving as visiting professor.

Barus, Carl. "Nuclear Electric Power and Nigeria," Mantech: Journal of Institute of Management and Technology 1(2), March 1977.

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Nigeria

OIP76-10459-R/T [1976]

Geography

Laurence A. Lewis
Graduate School of Geography
Clark University
Worcester, Massachusetts 01610

Pius O. Sada, Dean
Faculty of Arts and Sciences
University of Ibadan
Ibadan, Nigeria

Investigated methods of increasing quantity and reliability of local water supply. Examined soil erosion problems in tropics.

Lewis, Laurence A. "Soil Erosion in the Tropics; A Nigerian Example." Presented to Applied Geography Meetings, 1979.

Lewis, Laurence A. "The Measurement and Explanation of the Spatial Perception of Africa: A Nigerian Viewpoint," Geografiska Annaler 62B(1), 1980.

Nigeria/Senegal

Lewis, Laurence A. "The Movement of Soil Materials During a Rainy Season in Western Nigeria," Geoderma, 1981.

Lewis, Laurence A. African Environments, 1982.

29

Nigeria

INT77-07136-T [1977]

Immunology

James T. Barrett
Department of Microbiology
University of Missouri
Columbia, Missouri 65212

Oladeinde Ogunbi, Head
Department of Microbiology
and Parasitology
University of Lagos
Private Mail Bag 12003
Lagos, Nigeria

Presented immunology course in medical microbiology for medical students and residents. Provided consultation on local research projects in immunology.

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Nigeria

INT77-07128-T [1977]

Forestry

Klaus Steinbeck
School of Forest Resources
University of Georgia
Athens, Georgia 30602

L.C. Nwoboshi
Department of Forest Resources Management
University of Ibadan
Ibadan, Nigeria

Studied useful applications of forest cropping (coppice forestry) for producing food, fiber, and fuel in tropical forests.

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Senegal

INT77-24337-T [1977]

Cowpea

Richard C. Staples
Director, Plant Stress
Boyce Thompson Institute
for Plant Research, Inc.
Cornell University
1086 North Broadway
Yonkers, New York 10701

Senegalese Institute of
Brought Research
Senegal

International Institute
for Tropical Agriculture
Senegal

Developed research program for improving cowpea production. Conducted program for field selection of elite drought resistant lines of cowpea to develop crop cultivars that can produce exceptionally well in dry environments. Improved selection criteria for recognizing elite cowpea germplasm based on resistance of cowpea to low-water regimes. Developed improved management practices.

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Sudan

INT79-06544-R/T [1979]

Economics and Financing

Robert G. Fletcher
 Department of Finance
 California State College-Bakersfield
 9001 Stockdale Highway
 Bakersfield, California 93309

Ahmed Hamza and Ahmed Khalifa
 Department of Business Administration
 University of Khartoum
 Khartoum, Sudan

Developed adequate teaching methods in areas of economics, financing and management, promoting application of managerial techniques, and analytical tools to real-world development issues of the Sudan. Changed curriculum to include introducing quantitative analysis, publishing Sudan-related educational materials, and utilizing these materials in redesigned courses.

Fletcher, Robert G. Empirical Finance Problem Set Manual with Instructor's Manual. University of Khartoum Press, no date.

Fletcher, Robert G. Fondi and PEWC: Problem Analysis. Howard University: Intercollegiate Case Clearinghouse, no date.

Fletcher, Robert G. Sudan Financial Case Studies. University of Khartoum Press, no date.

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Tanzania

P3F0134-T [1973]

Wildlife Management

James H. Jenkins
 School of Forest Resources
 University of Georgia
 Athens, Georgia 30602

W. Alan Rodgers
 Director, Miombo Research Centre
 Ministry of Natural Resources and Tourism
 Selous Game Reserve Project
 P.O. Box 1994
 Dar Es Salaam, Tanzania

Collaborated on various aspects of game research and management needs and problems. Studied trophy wildlife harvesting and its relation to game cropping.

34

Tanzania

INT77-20879-R/T [1977]

Triangulation

Kandiah Jeyapalan
 Department of Engineering
 California State University-Fresno
 Fresno, California 93726

Principal Secretary to Ministry
 of Land and Land Development
 Dar Es Salaam, Tanzania

Determined new spheroid of reference and adjusted Tanzanian triangulation network accordingly. Collected data and studied project facilities. Conducted seminars on triangulation and data collection.

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Tanzania/Zambia

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Tanzania

INT77-27766-T [1977]

Wildlife Ecology

James G. Teer, Head
Department of Wildlife
and Fisheries Sciences
Texas A&M University
College Station, Texas 77843

University of Dar Es Salaam
Dar Es Salaam, Tanzania

Developed cooperative wildlife ecology teaching program for graduate students. Conducted research projects in animal ecology.

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Zambia

OIP75-09239-R/T [1975]

Fisheries

Richard G. Dudley
School of Forest Resources
University of Georgia
Athens, Georgia 30602

A.B.E. Mabaye, Director
Zambian Fisheries Department
P.O. Box 100
Chilanga, Zambia

E. Muyanga, Chief
Central Fisheries
Research Institute
Chilanga, Zambia

Studied commercial fish populations in Kafue floodplain area, concentrating on growth, survival, and distribution of Tilapia. Examined environmental impact of reducing or eliminating seasonal flooding.

Dudley, Richard G. "Status of Major Fishes of the Kafue Floodplain, Zambia Five Years After Completion of the Kafue Gorge Dam." Final report submitted to National Science Foundation Scientists and Engineers in Economic Development Program, 1976, 71 pp.

37

Zambia

OIP75-10007-R/T [1975]

Electronics

Barrett Hazeltine
Department of Engineering
Brown University
Providence, Rhode Island 02912

Derek Whittaker
Department of Electrical Engineering
University of Zambia
P.O. Box 2379
Lusaka, Zambia

Served as visiting professor. Assisted in developing advanced courses in electronic circuits, communications, and computers. Proposed undergraduate program in telecommunications and substantially improved existing course. Developed teaching materials for new course in electrical materials. Contributed to several technical projects, including electric power demand forecasting and design of electric generators for camps in national parks.

Hazeltine, Barrett. "Strategies for Engineering Schools in Developing Countries," Technos, 1977.

22

38

Zambia	OIP76-11797-R/T [1976]	Fisheries
Richard G. Dudley School of Forest Resources University of Georgia Athens, Georgia 30602	A.B.E. Mahaye, Director Zambian Fisheries Department P.O. Box 100 Chilanga, Zambia	E. Muyanga, Chief Central Fisheries Research Institute Chilanga, Zambia

Surveyed impact of dam construction on economically important fisheries.

Dudley, Richard G. "Changes in Growth and Size Distribution of Sarotherodon macrochir and Sarotherodon andersoni from the Kafue Floodplain, Zambia, Since Construction of the Kafue Gorge Dam," Journal of Fish Biology 14:205-223, 1979.

Dudley, Richard G. and Scully, R.J. "Changes in Experimental Gillnet Catches from the Kafue Floodplain, Zambia, Since Construction of the Kafue Gorge Dam," Journal of Fish Biology 16:521-537, 1980.

39

Nigeria, Kenya, Egypt	INT76-10472-T [1976]	Entomology
John D. Briggs Department of Entomology Ohio State University 1735 Neil Avenue Columbus, Ohio 43210	J.B.E. Awachie, Head and J.C. Gupta Department of Zoology University of Nigeria Nssuka, Nigeria	A.A. Ademosun, Dean Department of Agriculture University of Ife Ife, Ife, Nigeria
	Zaheer Parvez, Lecturer Department of Entomology University of Nairobi P.O. Box 30197 Nairobi, Kenya	Motbel Altahtawy Department of Economic Entomology University of Alexandria Alexandria, Egypt

Conferred with faculty and evaluated facilities at four universities. Developed plans for collaborative research on invertebrate pathology and microbial control of insect pests.

Multi-country

40

Kenya, Nigeria, Ghana

INT76-10472-T [1976]
INT76-12210-T [1976]

Law

Robert and Ann Seidman
Boston University
School of Law
Boston, Massachusetts 02215

H.W.O. Okoth-Ogendo
Department of Law
University of Nairobi
P.O. Box 30197
Nairobi, Kenya

A.D.N. Ezeani
Department of Law
University of Nigeria
Enugu Campus
Enugu, Nigeria

Chukuka Okanja, Director
United Nations Regional
Institute for Population Studies
University of Ghana
P.O. Box 96
Legon, Ghana

Conducted series of law and development seminars in four African universities and research institutes. Conducted comparative research on organization and structure of policy-oriented research institutes.

41

Nigeria, Tanzania

INT77-08107-T [1977]

Soil Science

Yoshinori Kanehiro
Department of Agronomy
and Soil Science
University of Hawaii
at Manoa
Honolulu, Hawaii 96822

R.B. Singh
Department of Soil Sciences
University of Dar Es Salaam
Dar Es Salaam, Tanzania

W.K. Gamble, Director
International Institute
of Tropical Agriculture
Ibadan, Nigeria

A. Singh, Head
Department of Soil Sciences
Ahmadu Bello University
Zaria, Nigeria

Presented seminars on biological nitrogen fixation by tropical agricultural legumes, environmental pollution problems caused by agricultural waste disposal practices in tropical soils, and crop production and land capabilities of tropical soil. Explored possibility of joint research on phosphate fixation in tropical soils.

Ghana, Tanzania

INT77-21701-R/T [1977]

Crop Marketing

Josephine F. Milburn
Department of Political
Science
Rhode Island University
Kingston,
Rhode Island 02881

Victor Nyanteng
Agricultural Research
Institute
University of Ghana
Legon, Ghana

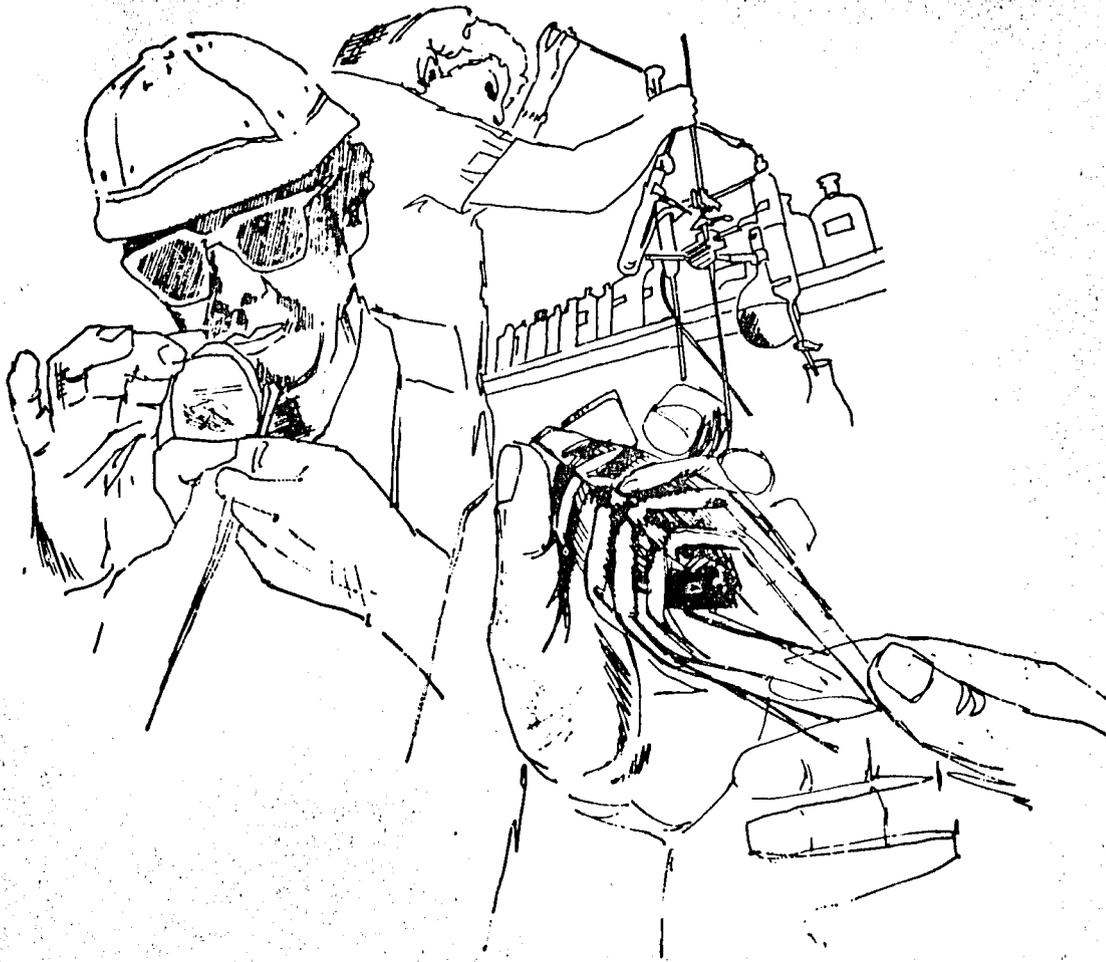
Robert Mabele
and E. Kisange
University of Dar Es Salaam
Dar Es Salaam, Tanzania

D. Michael Msyusa
Department of Agriculture
Government of Tanzania
Dar Es Salaam, Tanzania

Investigated relations between internal marketing procedures for cash crops and marketing crops on international market through observations and interviews. Evaluated need for stability in international crop marketing operations.

25

Asia



43

Afghanistan

INT77-07364-R/T [1977]

Social Impact

Karen L. Michaelson
 Department of Anthropology
 State University of New York
 at Binghamton
 Vestal Parkway East
 Binghamton, New York 13901

Sayd B. Majruh, Chair
 Department of Philosophy
 and Social Sciences
 Kabul University
 Kabul, Afghanistan

Trained local personnel to conduct social impact assessment. Provided background information on anticipated social impact of specific Kabul projects. Presented seminars to stimulate interest in social impact research.

Michaelson, Karen L. "Knowledge to Policy: Developing Information Linkages in Afghanistan," Human Organization, Summer 1980.

44

Afghanistan

INT77-07368-R/T [1977]
 INT78-16642-R/T [1978]

Atlas Development

John F. Shroder, Jr.
 Department of Geography and Geology
 University of Nebraska-Omaha
 Omaha, Nebraska 68182

Hamidullah Amin, Assistant Dean
 Faculty of Letters and Humanities
 Kabul University
 Kabul, Afghanistan

Coordinated project, including field work, cartography, drafting, and final publication, to complete national atlas of Afghanistan.

Shroder, John F. "Remote Sensing of Afghanistan," Afghanistan Journal 5:123-128, 1978.

45

India

P2F0188-T [1972]

Explosive Metalworking

Arthur A. Ezra
 Department of Mechanical
 Sciences and Environmental
 Engineering
 University of Denver
 University Park
 Denver, Colorado 80210

R. Mishra
 Department of Mechanical
 Engineering
 Indian Institute of
 Technology
 Kharagpur - 2, W.B.
 India

A.E. Muthuna Yagam
 Mechanical Engineering
 Division
 Space Science and
 Technology Center
 Trivandrum, India

Presented series of lectures on explosive metalworking. Outlined collaborative research program.

India

46

India

P3F0092-T [1973]

Pharmaceutical Stability

Vishnu D. Gupta
College of Pharmacy
University of Houston-
Central Campus
1441 Moursund Street
Houston, Texas 77004

K.N. Gaiind, Head
Department of Pharmaceutical Sciences
Panjab University
Chandigarh, India

Presented series of lectures on stability kinetics of drugs and pharmaceutical analysis. Conducted applied research laboratory experiments.

47

India

P3F0145-R/T [1973]

Electronics

OIP75-08729-R/T [1975]

Shyam H. Gurbaxani
Los Alamos Graduate Center
University of New Mexico
Los Alamos,
New Mexico 85744

J.V. Bonet, Head
Department of Physics
St. Xavier's College
Bombay, India

B.C. Haldar, Director
Institute of Science
15, Madam Cama Road
Bombay, 400032, India

Bombay University
Bombay, India

Assisted in building laser, magnetic resonance, and associated equipment for small scale research or lecture demonstration capabilities. Fabricated gas lasers using local supplies. Established facilities for magnetic resonance spectrometer. Prepared experiments with lasers and measured transverse mode patterns. Taught course in quantum electronics.

48

India

INT79-09894-R/T [1979]

Biodegradable Pesticides

Fumio Matsumura
Michigan State University
East Lansing, Michigan 48824

C.R. Krishnamurthy
Indian Toxicological Research Centre
Lucknow, India

Conducted workshop on biodegradable pesticides. Promoted information exchange and future research efforts between America and India.

49

Indonesia

P2F0308-T [1972]

Orchid Industry

Joseph Arditti
Department of Developmental
and Cell Biology
University of California-Irvine
Irvine, California 92717

Saleh Idris and
Didin Sastrapradja
Bogor Botanical Gardens
Kebun Raya, Bogor, Indonesia

Assisted in developing orchid industry. Expanded and reestablished J.J. Smith Collection for observation, classification, and display. Assisted in final planning of orchid laboratory. Trained persons to prepare seed and tissue cultures. Experimented with improved techniques for packaging orchids. Taught classes in plant physiology. Held several orchid training sessions, a seminar, and a lecture.

Arditti, Joseph. "Paphiopedilum Glaucophyllum--Java's Slipper Orchid," Bulletin of Kebun Raya (Bogor, Indonesia) 1(3):1-5, 1974.

50

Indonesia

P3F0110-T [1973]

Oceanography

Gordon W. Groves
Department of Oceanography
University of Hawaii at Manoa
Honolulu, Hawaii 96822

Sujatno Birowo, Director
National Institute of Oceanography
P.O. Box 580, Dak.
Djakarta, Indonesia

Assisted in establishing oceanographic data center. Initiated study of waves and tides in Java Sea.

51

Indonesia

P3F0135-T [1973]
OIP75-14502-T [1975]

Botany

Willem Meijer
Department of Biological Sciences
University of Kentucky
Lexington, Kentucky 40506

Kuswata Kartawinata
Program Manager
Tropical Forest Biology
Regional Center for Tropical Biology
P.O. Box 17
Kebun Raya, Bogor, Indonesia

Presented seminars on tropical forest ecology and botanical analysis of vegetation. Organized field work concerning management and conservation of natural resources.

Meijer, Willem. Field Guide for Trees of West Malesia. 1974, 320 pp.

Indonesia

Meijer, Willem. "Indonesian Forests and Land Use Planning." Report on NSF-AID travel grants, U.S. Government, May-August 1973, University of Kentucky. 1975, 112 pp.

Meijer, Willem. "Development, Ecology and Management in Forests in Indonesia." In: Proceedings Symposium on Ecological Issues in Contemporary Indonesia, July 31-August 3, 1980. Ninth Annual Conference on Indonesian Studies.

52

Indonesia

P4F0184-T [1974]

Forestry

Elvin T. Choong
Department of Forest Products Technology
Louisiana State University and
Agriculture and Mechanical College
Baton Rouge, Louisiana 70803

Rubini Atmanidjaja, Head
Department of Wood Products
Faculty of Forestry
Bogor Agricultural University
P.O. Box 69
Bogor, Indonesia

Participated in developing education program in forest product technology.

53

Indonesia

OIP75-07776-R/T [1975]

Entomology

D. Elmo Hardy
Department of Entomology
University of Hawaii
at Manoa
3050 Maile Way
Honolulu, Hawaii 96822

Hamzah Purakusumah, Director
Plant Quarantine
Jalan Salemba Raya No. 16
Tromol Pos No. 352
Jakarta, Indonesia

Setijati Sastrapradja,
Director
National Biological
Institute
Kebun Raya
Bogor, Indonesia

Organized and arranged Diptera collection into taxonomic categories. Trained staff and technicians in curatorial skills. Started biosystematic research program. Prepared monograph on local fauna.

Hardy, D. Elmo. "The Sophira Group of Fruit Fly Genera," Pacific Insects 22:123-161, no date.

Hardy, D. Elmo. "The Fruit Flies of the Genus Dacus (Diptera-Tephritidae) of Java, Sumatra and Lombok," Treubia (Bogor, Indonesia), no date.

Hardy, D. Elmo. "The Dacini of Sulawesi," Treubia (Bogor, Indonesia), no date.

54

Indonesia

INT76-18277-T [1976]

Mathematics

Samuel Eilenberg
Columbia University
522 Mathematics
New York, New York 10027

Bandung, Indonesia

Attended meeting of South East Asian Mathematical Society.

55

Indonesia

INT77-07132-R/T [1977]

Limnology and Fisheries

Kenneth D. Carlander
Department of Animal Ecology
Iowa State University
of Science and Technology
138 Science Building 2
Ames, Iowa 50011

Sutarno, Rector
and Liek Wilardjo
Satya Wacana Christian University
Salatiga, Indonesia

Assisted in establishing university fisheries research program and curriculum. Taught courses and trained local personnel in limnology and fisheries. Directed fisheries aspect of research program on Rawa Pening Lake.

McDonnell, J., Tjokropawiro, S., and Carlander, Kenneth D. "Food Habits and Gonad Development of Climbing Perch (Anabas Testudineus) in Rawa Pening," Journal of Satya Wacana Research 1(4):405-410, 1978.

Moershel, P., Iskandar, S.A.T., and Carlander, Kenneth D. "Food Habits and Gonad Development of Sepat Rowo (Trichogaster Trichopterus) and Sepat Siam (T. Pectoralis) in Rawa Pening," Journal of Satya Wacana Research 1(4):398-404, 1978.

Mahan, A., Suparno, T., and Carlander, Kenneth D. "Food Habits of Walking-Catfish (Clarias Batrachas) in Rawa Pening," Journal of Satya Wacana Research 1(4):374-380, 1978.

Hendrickson, R.G., Biyono, B., and Carlander, Kenneth D. "Incidence of Helminth Parasites in Some Fishes from Rawa Pening," Journal of Satya Wacana Research 1(4):392-397, 1978.

Nofziger, J., Trenggono, U., Yuwono, C.S.M., and Carlander, Kenneth D. "Investigations of Insect Populations at Rawa Pening Lake," Journal of Satya Wacana Research 1(4):381-391, 1978.

Carlander, Kenneth D. "The Iowa State University-Universitas Kristen Satya Wacana SPAN Program, 1978," Journal of Satya Wacana Research 1(4):ii-iii, 1978.

Indonesia

- Carlander, Kenneth D. "Some Mark and Recapture Estimates of the Giant Land Snail (*Achatina Fulica*) Populations," Journal of Satya Wacana Research 1(4):358-373, 1978.
- Carlander, Kenneth D. and Kastowo, Hadi. "Amount, Species Composition and Sizes of Fish Taken by Various Gear in Rawa Pening Lake, 1978," Journal of Satya Wacana Research 2(1):1-18, 1979.
- Carlander, Kenneth D. and Kastowo, Hadi. "Amounts and Species Composition of Fish Harvested from Rawa Pening, 1978," Journal of Satya Wacana Research 1(5):474-492, 1979.
- Carlander, Kenneth D., Hillger, Robert, Darmawan, Sulistyowati, and Biyono, Bambang. "Fecundity and Reproduction of Nilem, *Osteochilus Hasselti*, in Rawa Pening Lake, with Notes on Other Species," Journal of Satya Wacana Research 2(2):86-96, 1979.
- Hendrickson, Ronald G. and Carlander, Kenneth D. "Further Identification of Helminth Parasites of Some Rawa Pening Fishes," Journal of Satya Wacana Research 2(2):197-211, 1979.
- Nofziger, Jon and Carlander, Kenneth D. "Further Identification of Insects Collected in the Rawa Pening Vicinity," Journal of Satya Wacana Research 2(2):97-102, 1979.
- Carlander, Kenneth D. "Further Thoughts on Overfishing of Rawa Pening Lake," Journal of Satya Wacana Research 2(1):19-25, 1979.
- Quirk, Kathy, Kristyanto, A.I.A., and Carlander, Kenneth D. "Observations on Birds of Rawa Pening and Vicinity," Journal of Satya Wacana Research 1(5):429-439, 1979.
- Carlander, Kenneth D. "Relationships of Standard, Fork, and Total Lengths of Some Rawa Pening Fishes," Journal of Satya Wacana Research 2(2):102-106, 1979.
- Carlander, Kenneth D. and Kastowo, Hadi. "Sizes of Fish in the Catch at Rawa Pening, 1978," Journal of Satya Wacana Research 1(5):505-525, 1979.
- Carlander, Kenneth D. "Weight-Length Relationships of Some Rawa Pening Fishes," Journal of Satya Wacana Research 1(5):493-504, 1979.
- Carlander, Kenneth D. "Water Hyacinth and Overfishing Problems on an Indonesian Lake." In: Proceedings of the Iowa Academy of Science 87(1):20-22, 1980.

56

Indonesia

INT77-07325-R/T [1977]

Transportation Networking

Thomas R. Leinbach
 Department of Geography
 University of Kentucky
 1401 Patterson
 Lexington, Kentucky 40506

S.B. Joedono, Director
 Institute for Economic and Social Research
 University of Indonesia
 Jakarta, Indonesia

Conducted socioeconomic evaluation survey of sample of feeder road projects, with emphasis on impact of transport improvements on information flow, migration behavior, and local movement activity. Provided training in survey techniques and impact analysis.

Leinbach, Thomas R. "Feeder Road Impact Within Rural Development Program," November 1978.

Leinbach, Thomas R. "Travel Characteristics and Mobility Behavior," Geografiska Annaler 63, 1981.

Leinbach, Thomas R. "Transport Benefits and the PKGB Program in Indonesia," BIES, no date.

Leinbach, Thomas R. "Transport Impact Upon Circulation Behavior in Indonesia," no date.

57

Indonesia

INT77-08231-R/T [1977]

Medical Microbiology

Alan Stockland
 Department of Microbiology
 Weber State College
 Ogden, Utah 84403

Soetijipto
 Dean of Medical Faculty
 UNS "Sebalas Maret"
 University Negeri Surakarta Sebelas
 #150 Jln. Kolonel Sutarto
 Solo, Indonesia

Taught courses and developed curriculum in medical microbiology.

Indonesia

58

Indonesia

INT78-17127-T [1978]

Dentistry

Nguyen T. Nguyen
Department of Endodontics
School of Dentistry
University of California-
San Francisco Medical Center
San Francisco, California 94143

R. Hartono, Dean
Faculty of Dentistry
Airlangga State University
Surabaya, Indonesia

Delivered paper on endodontics during scientific session commemorating 50th Anniversary of Airlangga University. Conducted refresher course in endodontics and conservative dentistry for university dental faculty.

59

Indonesia

INT78-12402-T [1978]

Human Ecology

Frederick Sargent, II
Department of Human Ecology
University of Texas at Houston
Houston, Texas 77030

R. Hartono, Dean
Faculty of Dentistry
Airlangga State University
Surabaya, Indonesia

Taught public health course on how human ecology functions as the basic science in community health science. Delivered lecture at scientific session of 50th Anniversary of Dental Education. Designed model curricula for human ecology for licentiate, graduate, and doctorate programs.

60

Indonesia

INT78-07475-R/T [1978]

Chemistry

James C. Warf
Department of Chemistry
University of Southern
California
Los Angeles,
California 90007

Ahmad Mahyuddin, Dean
Andalas University
Djalan Djati 77, Padang
Sumatera, Indonesia

A. Amiruddin, Rector
Hardjoeno, Vice Rector
and Gunanto
Hasaruddin University
Ujung Padang, Indonesia

Taught courses and prepared textbook on inorganic chemistry. Prepared Indonesian/English dictionary for chemists. Presented seminars on research and modern developments. Provided consultation on chemical curriculum. Presented public lectures on American space program. Provided consultation on chemistry curriculum development, local research (improving batteries, corrosion control, and extraction of medicinals from plants), and faculty self-improvement.

Warf, James C. "Reflections on Science Education in the Pan-Malay World," Science Education 62:257, 1978.

Warf, James C. Kamus Ringkas Inggris-Indonesia Untuk Ahli Kimia (Concise English-Indonesian Dictionary for Chemists). Padang, Indonesia: Andalas University Press, 1979, 144 pp.

Warf, James C. Kimia Anorganik (Inorganic Chemistry). Padang, Indonesia: Andalas University Press, 1979, 604 pp.

61

Indonesia

INT79-13681-T [1979]

Entomology

D. Elmo Hardy
Department of Entomology
University of Hawaii at Manoa
3050 Maile Way
Honolulu, Hawaii 96822

Hamzah Purakusumah, Director
Plant Quarantine
Jalan Salemba Raya No. 16
Tromol Pos No. 352
Jakarta, Indonesia

Presented entomology training seminars, workshops, and lectures on biology, ecology, insect pest control, pest ecology, arthropod-borne diseases, taxonomy, and fruit flies. Organized Indonesian fruit fly survey. Studied, sorted, and updated Diptera collection at Museum Zoologicum Bogoriense. Identified collections of Dacine and other fruit flies.

62

Indonesia

INT79-20641-R/T [1979]

Botany

Charles H. Lamoureux
Department of Botany
University of Hawaii at Manoa
3190 Maile Way
Honolulu, Hawaii 96822

Setijati Sastrapradja, Director
National Biological Institute
Kebun Raya, Bogor, Indonesia

Trained junior staff members in basic botany and research design and methodology and guided them in executing research projects through to publication. Collaborated with staff members on joint research projects on grain legumes, fruit trees, and orchids.

Lamoureux, Charles H. Guidebook to the Botanical Gardens of Indonesia. 1981.

Lamoureux, Charles H. and Sastrapradja, S. Useful Plants of Indonesia. 1982.

Indonesia/Korea

63

Indonesia

INT79-06680-R/T [1979]

Environmental Geography

W. Donald McTaggart
Department of Geography
Arizona State University
Tempe, Arizona 85281

Nagakan Nyoman Gede
and Ketut Rindjin, Dean
Fakultas Keguruan
University Udayana
Singaraja, Bali, Indonesia

Established and taught basic environmental geography course. Developed locally based materials to maintain course.

64

Indonesia

INT80-06125-R/T [1980]

Social Science

William S. Johnson
Department of Sociology
Ball State University
Muncie, Indiana 47306

Mas Hadi Suparto, Director
LP3M, Dewan Guru Besar
IKIP - Malang
Jl. Semarang 5, Malang
Indonesia

Assisted in developing doctoral social science research training program. Planned and conducted research on fertility control. Presented courses in research methodology. Introduced computer utilization as a research tool.

65

Korea

P2F0281-R/T [1972]

Chemical Engineering

Marvin D. McKinley
Department of Chemical and
Metallurgical Engineering
University of Alabama
University, Alabama 35486

Giu Nam King, Dean
College of Engineering
Pusan National University
Pusan, Korea

Upgraded competence of chemical engineering faculty by teaching courses and conducting research on chemical plant instrumentation and process design and techniques. Provided consultation to various industries.

Armstrong, R.D., Clark, H.N., and McKinley, Marvin D. "Simultaneous Heat and Mass Transfer in Gas Absorption: System NH_3 - Air - H_2O ." Presented to International Conference on Chemical Engineering, Seoul, Korea.

66

Korea

P2F0238-R/T [1972]

Education

Kwangjai Park
Department of Physics
University of Oregon
Eugene, Oregon 97403

John P. Daly, President
Sogang University
P.O. Box 1142
Seoul, Korea

Instituted experimental approach in teaching science and engineering undergraduate courses. Organized pilot laboratories on optics and on digital electronics. Stressed importance of observation and measurement in existing laboratory courses. Exposed students to modern instruments and techniques.

Park, Kwangjai. "Physics Education in the United States of America," New Physics (Korean Physical Society) 12:8111, 1972.

Park, Kwangjai. "Multi-Photon Spectroscopy." Presented at 20th Anniversary Meeting of the Korean Physical Society, no date.

67

Korea

P3F0143-R/T [1973]

Chemical Engineering

Young G. Kim
Department of Chemical
Engineering
Northwestern University
Evanston, Illinois 60201

Chai-sung Lee
Department of Chemical
Engineering
College of Engineering
Seoul National University
Seoul, Korea

Sang Joon Hahn, President
Korean Institute of
Science and Technology
P.O. Box 131, Cheong Ryang
Seoul, Korea

Presented courses and seminars on design and analysis of industrial experiments, statistical modeling, and chemical reaction engineering. Conducted research on petrochemical reaction engineering, three-phase reaction systems and mathematical modeling. Introduced course in process modeling by statistical methods. Designed process stimulation laboratory. Developed curriculum and upgraded courses in chemical kinetics and reactor design.

68

Korea

P3F0136-T [1973]

Applied Mechanics

Jackson C.S. Yang
Department of Mechanical Engineering
University of Maryland-College Park
College Park, Maryland 20742

Sang Joon Hahn, President
and K.T. Chang, Head
Metal Working Laboratory
Korean Institute of Science and Technology
P.O. Box 131, Cheong Ryang
Seoul, Korea

Conducted lectures and seminars and reviewed research efforts in field of applied mechanics, including theoretical and experimental dynamic stress analysis, and current advanced research activities.

Korea

69

Korea

P3F0102-T [1973]

Chemistry

Hyuk Yu
Department of Chemistry
University of Wisconsin-Madison
1101 University Avenue
Madison, Wisconsin 53706

Sang Joon Hahn, President
Korean Institute of Science and Technology
P.O. Box 131, Cheong Ryang
Seoul, Korea

Reviewed research progress and conducted seminars on aspects of basic physical properties of liquid crystals.

70

Korea

OIP74-09040-T [1974]

Polymer Technology

Chang Dae Han
Department of Chemical Engineering
Polytechnic Institute of New York
333 Jay Street
Brooklyn, New York 11201

Ki Jun Lee, Acting Chair
Department of Chemical Engineering
and Hi Chu' Kun, Dean
College of Engineering
Seoul National University
Seoul, Korea

Delivered lectures on polymer technology. Assisted in initiating new educational and research programs.

71

Korea

Travel [1974]

Coastal Engineering

Young C. Kim
Department of Civil Engineering
California State University-Los Angeles
Los Angeles, California 90032

College of Engineering
Seoul National University
Seoul, Korea

Assisted in developing fluid and hydraulic laboratory programs. Provided consultation on curriculum development in field of coastal engineering.

72

Korea

OIP74-09685-R/T [1974]

Soybean Technology

Harry E. Snyder
 Department of Food Technology
 Iowa State University
 of Science and Technology
 Ames, Iowa 50011

T.W. Kwon, Head
 Food Resources Laboratory
 Korean Institute of Science and Technology
 P.O. Box 131, Cheong Ryang
 Seoul, Korea

Improved and demonstrated modern methods of soybean processing technology. Established local technology for producing suitable and inexpensive soybean products.

Snyder, Harry E. "Institute of Food Technologists Public Information Program," Korean Journal of Food Science and Technology 6:249-253, 1974.

73

Korea

OIP75-09247-T [1975]

Mechanical Engineering

Charles H. Kahng
 Department of Mechanical Engineering
 Michigan Technological University
 Houghton, Michigan 49931

Korean Advanced Institute of Science
 Chongyangni
 Seoul, Korea

Korean Institute of Science and Technology
 P.O. Box 131, Cheong Ryang
 Seoul, Korea

Conducted seminars, lectured and provided consultation on problems in machine tool technology and manufacturing engineering.

74

Korea

OIP75-07775-R/T [1975]

Entomology

Ke Chung Kim
 Department of Entomology
 Pennsylvania State University
 201 Patterson Building
 University Park, Pennsylvania 16802

Hae Young Lee, Dean
 College of Liberal Arts and Sciences
 Seoul National University
 Seoul, Korea

Participated in environmental impact studies of heavy and chemical industrial centers. Developed guidelines and procedures for studying environmental impact, including standardized sampling techniques for biotic measurements. Taught courses and presented seminars on medical entomology and systematics. Promoted environmental policy development.

Kim, Ke Chung and Rho, C.S. "Korean Environment and National Development." Presented at the National Conference on Human Development, December 11-12, 1975.

Korea

75

Korea

OIP75-08493-R/T [1975]

Business and Economics

Ik-Whan Kwon
Department of Management Sciences
St. Louis University
3694 Lindell Boulevard
St. Louis, Missouri 63108

Chong Ha Lee, Dean
College of Business and Economics
Yonsei University
Seoul, Korea

Continued research on econometric models that estimate private and social returns from various educational levels and programs. Taught course in decision theory under conditions of uncertainty (Bayesian analysis). Assisted in developing modern curriculum for modern decision theory.

76

Korea

OIP75-14746-R/T [1975]

Soybean Technology

Harry E. Snyder
Department of Food Technology
Iowa State University
of Science and Technology
Ames, Iowa 50011

T.W. Kwon, Head
Food Resources Laboratory
Korean Institute of Science and Technology
P.O. Box 131, Cheong Ryang
Seoul, Korea

Advanced soybean processing technology.

Cheigh, H.S., Snyder, Harry E., and Kwon, T.W. "Rheological and Milling Characteristics of Naked and Covered Barley Varieties," Korean Journal of Food Science and Technology 7:85-90, 1975.

77

Korea

INT76-17281-T [1976]

Science and Technology

Donald D. Evans
Denver Research Institute
University of Denver
University Park
Denver, Colorado 80210

Korean Institute of Science and Technology
P.O. Box 131, Cheong Ryang
Seoul, Korea

Participated in Korean Institute of Science and Technology (KIST) Tenth Anniversary Colloquium.

78

Korea

INT76-08739-T [1976]

Polymer Technology

Chang Dae Han
 Department of Chemical Engineering
 Polytechnic Institute of New York
 333 Jay Street
 Brooklyn, New York 11201

Wha Young Lee, Chair
 College of Engineering
 Seoul National University
 Seoul, Korea

Presented lectures on polymer processing. Collaborated on developing research and education related to polymer science.

79

Korea

OIP76-10715-R/T [1976]

Mechanical Engineering

Kwan Rim
 College of Engineering
 University of Iowa
 Iowa City, Iowa 52240

Sang Joon Hahn, President
 Korean Institute of
 Science and Technology
 P.O. Box 131, Cheong Ryang
 Seoul, Korea

Young Gul Kim
 Acting President
 Korean Advanced Institute
 of Science
 P.O. Box 150, Chongyangni
 Seoul, Korea

Collaborated on improving local technology for producing prosthetic implants and orthopedic devices. Conducted research and taught courses in field of mechanical engineering.

80

Korea

INT76-10712-T [1976]

Cell Genetics

Seung-il Shin
 Department of Genetics
 Yeshiva University
 Albert Einstein College
 of Medicine
 1300 Morris Park Avenue
 Bronx, New York 10461

Chong Hoon Lee
 Secretary General
 Korean Society for
 Immunology
 Department of Microbiology
 Catholic Medical College
 Seoul, Korea

T.H. Hahn
 Executive Officer
 Korean Chemical Society
 c/o Dean's Office
 College of Science and
 Engineering
 Joong-ang University
 Seoul, Korea

Taught advanced level postgraduate course in cell culture and somatic cell genetics.

Korea

81

Korea

OIP76-05598-R/T [1976]

Economics

Larry L. Wade
Department of Political Science
University of California-Davis
Davis, California 95616

Dong Suh Bark
Graduate School of Public Administration
Seoul National University
Seoul, Korea

Developed policy recommendations relevant to economic planning and decisionmaking. Collected statistical information on economic activities. Prepared research manuscript for publication.

Wade, Larry L. Korean Economic Development. New York: Praeger, 1978.

82

Korea

INT77-08105-R/T [1977]

Computer Applications

Hak C. Lee
Department of Management Science
State University of New York at Albany
1400 Washington Avenue
Albany, New York 12222

Chong-Jin Chung, Dean
College of Business and Economics
Yonsei University
Seoul, Korea

Studied management practices that facilitate use of computers. Taught courses and developed curriculum in business administration, with emphasis on computer applications.

83

Korea

INT80-04198-R/T [1980]

Macroeconomics

Jang H. Yoo
Department of Economics
Virginia Commonwealth University
Richmond, Virginia 23284

Hyun-Jae Lee, Dean
College of Social Sciences
Seoul National University
Seoul, Korea

Assisted in strengthening doctoral program in economics. Established advanced macroeconomics program. Taught macroeconomic theory and estimation methods. Developed computerized macroeconomic model.

84

Malaysia

INT76-23908-T [1976]

Archaeology

Chester F. Gorman
University Museum
33rd and Spruce Streets
Philadelphia, Pennsylvania 19174

Museum Negara
Kuala Lumpur, Malaysia

Organized joint research program between Museum Negara and University Museum. Applied for funding of archaeological training program.

85

Malaysia

INT76-22117-T [1976]

Ecology

Patricia K. Townsend
193 Mount Vernon Road
Amherst, New York 14226

Symposium Sago 76
Kuching, Sarawak

Presented paper on cultural ecology of New Guinea Sago at Symposium on the Equatorial Swamp as a Renewable Natural Resource---Sago 76.

86

Malaysia

INT77-07322-R/T [1977]

Education

Michael A. Fiasca
Department of Science Education
Portland State University
P.O. Box 751
Portland, Oregon 97207

Chin Pin Seng, Director
Regional Center for Education
in Science and Mathematics
Glugor, Penang, Malaysia

Identified several science and mathematics education problems common to both United States and Southeast Asia. Planned implementation of cooperative effort to develop new instructional materials.

Fiasca, Michael A. Developing Test Items for Science, no date.

Fiasca, Michael A. Evaluation in Mathematics, no date.

Fiasca, Michael A. Evaluation in Science Education, no date.

Malaysia

87

Malaysia

INT78-21880-R/T [1978]

Science Education

Gene F. Craven
Department of Science Education
and Physical Science
Oregon State University
Corvallis, Oregon 97331

Potencia C. Cruz
and Chin Pin Seng, Director
Regional Center for Education in
Science and Mathematics
Glugor, Penang, Malaysia

Developed and tested series of self-instructional modules for science teachers to better meet teacher training needs of Southeast Asia.

88

Malaysia

INT78-21882-R/T [1978]

Food Preservation

Allen Lee
Department of Education
Portland State University
Portland, Oregon 97303

Chin Pin Seng, Director and
Simand Juntak, Assistant Director
Regional Center for Education in
Science and Mathematics
Glugor, Penang, Malaysia

Promoted rural skills to more effectively utilize abundant food resources. Assisted rural population in learning food preservation skills, including canning, drying, and using spices. Assisted in teaching basic science and physiology concepts (including bacteriology, chemistry, and physiology) to rural people to enable them to preserve foods in a sanitary, healthful, and nutritional manner. Developed instructional materials and conducted evaluation study.

89

Malaysia

INT79-08254-T [1979]

Education

Michael A. Fiasca
Department of Science Education
Portland State University
P.O. Box 751
Portland, Oregon 97207

Chin Pin Seng, Director
Regional Center for Education
in Science and Mathematics
Glugor, Penang, Malaysia

Established educational ties between Oregon State System of Higher Education and Regional Center for Education in Science and Mathematics (RECSAM) to upgrade science and mathematics education in Southeast Asia. Proposed development of instructional materials for teaching science and mathematics.

44

90

Nepal

P4F0269-R/T [1974]

Energy Technology

Chaman N. Kashkari
 Department of Electrical Engineering
 University of Akron
 Akron, Ohio 44325

Tribhuvan University
 Kathmandu, Nepal

Developed engineering courses in energy planning. Collaborated on energy research focusing on energy planning, cost reductions of electric power, efficiency of energy commission processes, and new sources of energy.

Kashkari, Chaman N. "Nepal: The Energy Sector." Report presented to the Government of Nepal, no date.

91

Nepal

OIP75-09244-R/T [1975]

Chemistry

Gene D. Schaumberg
 Department of Chemistry
 California State College-Sonoma
 1801 East Cotati Avenue
 Rohnert Park, California 94928

Tribhuvan University
 Kathmandu, Nepal

Collaborated on developing science curriculum, teacher instruction, and evaluating teaching materials and standardized examinations. Taught graduate level courses, as well as implemented and supervised chemistry research. Initiated study of medicinal plants.

92

Pakistan

OIP76-10708-R/T [1976]

Nuclear Technology

Paulinus S. Shieh
 Mississippi State University
 Mississippi State, Mississippi 39762

Inam-Ur-Rahman, Head
 Center for Nuclear Studies
 Pakistan Institute of Nuclear
 Science and Technology
 Rawalpindi, Pakistan

Conducted survey of energy resources to assess proper role of nuclear energy. Taught courses and presented lectures and seminars on thermonuclear engineering, reactor experiments, reactor theory, energy modeling, and reactor design. Initiated preliminary planning on establishing isotope measurement laboratory for safety and environmental studies.

45

93

Papua New Guinea

INT79-25921-R/T [1979]

Botany

Seymour H. Sohmer
Director of Herbarium
Department of Biology
University of Wisconsin-La Crosse
La Crosse, Wisconsin 54601

Division of Botany
Office of Forests
Department of Primary Industry
Lae, Papua New Guinea

Sorted, identified, and assessed morphological variation within extremely difficult flowering plant genus Psychotria (Rubiaceae). Prepared same plant genus for Flora of Papua New Guinea Project. Assisted in training local botanists.

94

Philippines

OIP75-08849-R/T [1975]

Mathematics

James F. Hurley
Department of Mathematics
University of Connecticut
Box U-9
Storrs, Connecticut 06268

Benvenido F. Nebres, Dean
Graduate School and College
of Arts and Sciences
Manila University
P.O. Box 154
Manila, Philippines

Melecio S. Magno
Officer-in-Charge
Office of Vice President
for Academic Affairs
University of Philippines
Quezon City, Philippines

Assisted in inauguration of Institute of Advanced Studies. Designed new graduate level course in mathematics. Conducted seminars and published notes on new mathematics courses.

Hurley, James F. "Philosophical Nature of Math." Presented at Meeting of Science and Philosophy, 1975.

Hurley, James F. "Recent Developments in Mathematics in the Philippines," Gazette of Australian Mathematical Society 3:87-93, 1976.

Hurley, James F. and Rudvalis, Arunas. "Finite Simple Groups," American Mathematical Monthly 84:693-714, 1977.

Hurley, James F. "Orders in Simple Lie Algebras of Chevalley Type," Journal of Australian Mathematical Society 26:76-85, 1978.

46

95

Philippines

OIP75-10164-R/T [1975]

Computer Science

Oscar H. Ibarra
 Department of Computer Science
 University of Minnesota
 136 Lind Hall
 Minneapolis, Minnesota 55455

Leopoldo V. Abis, Associate Dean
 College of Engineering
 University of Philippines
 Quezon City, Philippines

Served as visiting professor. Designed and taught computer science courses, including programming languages, data structures, and operating systems. Advised on increasing efficiency of available computer facilities.

96

Philippines

OIP76-10685-R/T [1976]

Sea Snake Reproduction

George C. Gorman
 Department of Biology
 University of California-Los Angeles
 Los Angeles, California 90024

Angel C. Alcala, Vice President
 Division of Research, Extension
 and Development
 Silliman University
 Dumaguete, Philippines

Studied reproductive biology of sea snakes, including seasonality, fecundity, development time, mating behavior, and dispersal of juveniles. Utilized comparative biochemistry and cytogenetic approaches to study phylogenetic relationships of three species of marine snakes: Achrochordus granulatus, Cerberus rhynchops, and Laticauda colubrina.

Cadle and Gorman, George C. "Albumin Immunological Evidence and the Relationships of Sea Snakes," Journal of Herpetology, no date.

Gorman, George C., Licht, and McCollum. "Annual Reproductive Patterns in Marine Snakes from the Central Philippines," Journal of Herpetology, no date.

Gorman, George C. "The Chromosomes of Laticauda," Journal of Herpetology, no date.

97

Philippines

INT76-10460-T [1976]

Rice Research

Peter L. Steponkus
 Department of Agronomy
 Cornell University
 609 Bradford Hall
 Ithaca, New York 14853

Marcos R. Vega
 Assistant Director
 International Rice Research Institute
 Los Banos, Philippines

Initiated and evaluated project on physiological aspects of drought resistance in upland rice.

Philippines

98

Philippines

INT77-15153-R/T [1977]

Electrical Engineering

John D. Brule
Department of Electrical
and Computer Engineering
Syracuse University
Syracuse, New York 13210

Margarito Alingasa
President
University of San Carlos
Cebu City, Philippines

Pedro Yap, Dean
College of Engineering
University of San Carlos
Cebu City, Philippines

Assisted in developing new approaches to current curricula. Introduced new graduate courses and conducted research. Developed courses in arithmetic and computational methods. Taught courses in power systems analysis, servomechanisms, and circuit design. Introduced microcomputer into local technical community through seminars, workshops, and laboratory experience.

99

Philippines

INT77-07745-T [1977]

Business Administration

Robert E. Nelson
Department of Business
Education
University of Illinois-
Urbana-Champaign
Urbana, Illinois 61801

Paterno V. Vilorio
Acting Director
Institute for Small-Scale
Industries
Quezon City 3004,
Philippines

University of the Philippines
Tacloban City, Philippines

Assisted in developing teaching materials for new high school curriculum in entrepreneurship intended for future managers of small business enterprises.

100

Philippines

INT78-07478-R/T [1978]

Soil Science

Lyle E. Nelson
Department of Agronomy
Mississippi State University
Box 5248
Mississippi State, Mississippi 39762

N.C. Brady
Director General
International Rice Research Institute
P.O. Box 933
Manila, Philippines

Taught graduate course in soil fertility. Investigated interactions between toxic levels of manganese and various soil properties and plant characteristics of upland rice. Devised technique for evaluating tolerance of rice cultivars to excess manganese. Conducted study of manganese and aluminum toxicity using nutrient cultures in greenhouse and phytotron to prove that tolerance to excess aluminum is not necessarily correlated with rice cultivars to excess manganese.

48

101

Philippines

INT78-07262-R/T [1978]

Parasitology

Frederick J. Vande Vusse
Department of Biology
Gustavus Adolphus College
St. Peter, Minnesota 56082

Angel C. Alcala, Vice President
Division of Research, Extension,
and Development
Silliman University
Dumaguete, Philippines

Developed and initiated training and extension program in public health parasitology. Developed training curriculum for health workers. Improved diagnostic capabilities for parasitic infections. Assessed local parasitic disease problems. Increased awareness level of physicians to local parasitic disease problems.

Burgan, Barry G., Zxeleczyk, K.A., and Vande Vusse, Frederick J. "An Illustrated Key to Philippine Rabbitfishes, *Siganus* spp., with Descriptive and Ecological Notes," Silliman Journal 26:99-114, 1979.

102

Philippines

INT79-06650-R/T [1979]

Soil Science

Ulysses S. Jones
Department of Agronomy
and Soils
Clemson University
Clemson,
South Carolina 29631

G.F. Saquiguit
Deputy Director and
Jose D. Drilon, Jr. Director
Southeast Asian Center for
Graduate Study and Research
in Agriculture
P.O. Box 720 MCC
Makati, Metro Manila
Philippines

N.C. Brady
Director General
International Rice
Research Institute
P.O. Box 933
Manila, Philippines

S.N. Tilo, Chair
Department of Soil Science
University of Philippines
at Los Banos College
Laguna, Philippines

Conducted seminars and taught courses regarding clay mineral nutrition and plant absorption of nutrients, and producing, marketing, and using commercial fertilizers and other soil amendments. Investigated nutrient requirements and most desirable soil reaction in order to improve adverse soil environments for producing tropical legumes with high protein contents.

Jones, Ulysses S., et al. "Differential Response of Soybean, Mung Bean and Corn to Calcium, Phosphorus and Sulfur, and of the Legumes to Inoculation on a Guadalupe Clay," Soil Science Society of America Journal, 1981.

Jones, Ulysses S., et al. "Wetland Rice Nutrient Deficiencies Other Than Nitrogen." Presented at the 20th Anniversary Symposium, International Rice Research Institute, Los Banos, Philippines, 1981.

Thailand

103

Thailand

P3F0141-T [1973]

Forestry

Christen Skaar
State University of New York
College of Environmental
Science and Forestry
Syracuse, New York 13210

Chongrak Prichananda, Acting Dean
and Sanga Sabhasri, Dean
Faculty of Forestry
Kasetsart University
Bangkok 9, Thailand

Assisted in evaluating and upgrading forest products curriculum. Presented seminar on wood research. Taught course in instrumentation to upgrade research ability of Royal Forest Research Institute personnel. Provided consultation on existing facilities, additional desirable facilities, research projects, and graduate training in forest products industry.

104

Thailand

OIP74-10126-R/T [1974]

Biology

Jack L. Carter
Department of Biology
Colorado College
Colorado Springs,
Colorado 80903

G.H. Aylward
Chief Technical Advisor
United Nations Development
Program in the Far East/
United Nations Educational
Scientific and Cultural
Organization (UNDP/UNESCO)
Bangkok, Thailand

Institute for the
Promotion of Teaching
Science and Technology
Bangkok, Thailand

Developed secondary biological science curriculum, including teacher preparation and materials evaluation. Assisted in revising student texts and teachers' guides.

105

Thailand

INT77-08716-T [1977]

Computer Applications

Yaohan Chu
 Department of Computer Science
 University of Maryland-College Park
 College Park, Maryland 20742

James A. Kearns, Director
 Regional Computer Center
 Asian Institute of Technology
 P.O. Box 2754
 Bangkok, Thailand

James A. Jordan
 International Conference on Computer
 Applications in Developing Countries
 Asian Institute of Technology
 Km. 42, Paholyothin Highway
 P.O. Box 2754
 Bangkok, Thailand

Conducted regional seminar on microprocessors and microcomputers.
 Participated in conference on computer applications in developing countries.

Chu, Yaohan. "Microprocessors and Computer Education." In: Jordan, J.A. and
 Malaivongs, K., eds., Proceedings of the International Conference on Computer
 Applications in Developing Countries, August 22-25, 1977, Bangkok, Volume II.

106

Thailand

INT77-07036-T [1977]

Thermal Energy

James P. Hartnett, Director
 Energy Resources Center
 University of Illinois
 Box 4348
 Chicago, Illinois 60648

Robert B. Banks
 Vice President
 Asian Institute of Technology
 P.O. Box 2754
 Bangkok, Thailand

Contributed to further development of Regional Centre for Energy Heat and
 Mass Transfer. Assisted in planning thermal science programs.

107

Thailand

INT77-01313-T [1977]

Nutrition

Robert Van Reen
 Department of Food and Nutrition
 University of Hawaii at Manoa
 1800 East-West Road
 Honolulu, Hawaii 96822

Aree Valyaseri, Dean
 Faculty of Medicine
 Ramathibodi Hospital Research Laboratory
 Mahidol University
 Bangkok, Thailand

Evaluated and improved new graduate nutrition program. Provided
 consultation on current and future nutrition research programs.

Thailand

108

Thailand

INT78-26671-T [1978]

Water Treatment

A. Amirtharajah
Department of Civil Engineering
and Engineering Mechanics
Montana State University
Bozeman, Montana 59715

E.A. Ouano
Conference Secretary on Water Pollution
Control in Developing Countries
Asian Institute of Technology
P.O. Box 2754
Bangkok, Thailand

Conducted lectures and seminars on water treatment at the Asian Institute of Technology and established collaborative relationship.

Amirtharajah, A. "Optimum Backwashing of Sand Filters," Journal of the Environmental Engineering Division, (American Society of Civil Engineers) 104(EE5):917-932, 1978.

Amirtharajah, A. Discussion of "Effectiveness of Backwashing for Wastewater Filters," by J.L. Cleasby and J.C. Lorence, Journal of the Environmental Engineering Division, (American Society of Civil Engineers) 105(EE2):440-441, 1979.

Amirtharajah, A. Closure of "Optimum Backwashing of Sand Filters," Journal of the Environmental Engineering Division (American Society of Civil Engineers) 106(EE4):859-860, 1980.

Amirtharajah, A. and Wetstein, Daniel P. "Initial Degradation of Effluent Quality During Filtration," Journal of American Water Works Association 72:518-524, 1980.

109

Thailand

INT78-07269-T [1978]

Geothermal Research

Lokesh N. Chaturvedi
Department of Civil Engineering
and Earth Science
New Mexico State University-Las Cruces
University Park
Las Cruces, New Mexico 88003

Robert B. Banks, Vice President
and S.T. Petarlim
Asian Institute of Technology
P.O. Box 2754
Bangkok, Thailand

Explored opportunities for initiating joint geothermal research program involving New Mexico State University and institutions of higher learning in Thailand.

110

Thailand

INT79-06681-R/T [1979]

Policy Analysis

David Nasatir
 Department of Behavioral Sciences
 California State University-
 Dominguez Hills
 1000 East Victoria Street
 Carson, California 90747

Chulalongkorn University
 Bangkok, Thailand

Assisted in designing and developing curriculum for doctoral program in evaluation and policy analysis, including courses in needs assessment, research methods, management theory, and organizational behavior. Identified faculty requirements for implementing program. Planned and initiated faculty and student recruitment and taught classes.

111

Thailand

INT79-07063-T [1979]

Tropical Ecology

George A. Petrides
 Department of Fisheries and Wildlife
 Michigan State University
 East Lansing, Michigan 48824

Sutharm Aveekul
 Vice Rector for Academic Affairs
 Kasetsart University
 Bangkok 9, Thailand

Participated in 5th International Symposium of International Society for Tropical Ecology. Consolidated plans for cooperative research in wildlife and resource ecology. Reviewed Thailand's needs for ecological research and training in economic development of wildlife and national park resources.

Petrides, George A. "International Standards for National Parks and Similar Reserves." Presented at the 5th International Symposium for Tropical Ecology, Kuala Lumpur, April 1979.

112

Thailand

INT79-23399-T [1979]

Agricultural Engineering

Arun G. Walvekar, Head
 Department of Industrial Engineering
 New Mexico State University-Las Cruces
 Box 4230, University Park
 Las Cruces, New Mexico 88003

Charvey Boonyubol, Dean
 College of Engineering
 Chulalongkorn University
 Bangkok, Thailand

Discussed joint research in solar energy applications and developing expertise in teaching agricultural engineering with university officials and local industry representatives.

Thailand/Turkey

113

Thailand

INT80-07058-T [1980]

Parasitology

Ezequiel R. Rivera
Department of Biological Sciences
University of Lowell
University Avenue
Lowell, Massachusetts 01854

Santasiri Sorman, Head
Department of Tropical Medicine
Faculty of Tropical Medicine
Mahidol University
Bangkok, Thailand

Trained technicians and faculty for research on parasites that infest snails and then spread debilitating disease to humans.

114

Turkey

P2F0286-T [1972]

Thermal Science

Ozer A. Arnas
Department of Mechanical Engineering
Louisiana State University and
Agriculture and Mechanical College
Baton Rouge, Louisiana 70803

Aydin Umur
Bogazici University
Istanbul, Turkey

Participated in seminar on thermal science education in mechanical engineering in relation to economic development.

115

Turkey

P2F0244-R/T [1972]

Soil Science

Turgut Demirel
Department of Civil Engineering
Iowa State University
of Science and Technology
482 Town Engineering Building
Ames, Iowa 50011

College of Arts and Sciences
Middle East Technical University
Ankara, Turkey

Developed soil science and geological engineering curriculum. Taught undergraduate and graduate level courses in soil engineering. Organized soil research laboratory. Assisted university staff in developing graduate research on soils.

Erol, O., Demirel, Turgut, and Lohnes, R.A. "Rate Process Theory Applied to Soft Clays." In: Proceedings of the First International Symposium on Soft Clay, 1977, pp. 117-132.

116

Turkey

P2F0285-T [1972]

Energy Technology

O.K. Mawardi
 Plasma Research Laboratory
 Case Western Reserve University
 Cleveland, Ohio 44106

Cavid Ener
 Department of Physics
 Istanbul University
 Istanbul, Turkey

Presented seminars on recent developments in non-linear acoustics, acoustic holography, and plasma physics (particularly controlled fusion research), as well as on technologically assessing Turkey's ability for energy production.

117

Turkey

P3F0096-T [1973]

Energy Technology

Ozer A. Arnas
 Department of Mechanical Engineering
 Louisiana State University and
 Agriculture and Mechanical College
 Baton Rouge, Louisiana 70803

Ydcin Gogus, Chair
 Mechanical Engineering Department
 Middle East Technical University
 Ankara, Turkey

Presented lectures on direct energy conversion and better management of energy resources.

118

Turkey

P3F0142-R/T [1973]

Aerospace Engineering

Francis J. Hale
 Department of Mechanical
 and Aerospace Engineering
 North Carolina State University-Raleigh
 Raleigh, North Carolina 27650

Middle East Technical University
 Ankara, Turkey

Organized and guided efforts of existing control systems groups. Developed limited capability in subsonic aircraft performance. Conducted seminars, introduced realistic engineering applications, and initiated research on dynamic analysis and control problems of industry.

Turkey

119

Turkey

P3F0107-R/T [1973]

Water Resources

John W. Hernandez
Department of Civil Engineering
New Mexico State University-Las Cruces
University Park
Las Cruces, New Mexico 88003

Bogazici University
Istanbul, Turkey

Assisted in developing water resources. Conducted seminars, taught courses, and conducted laboratory demonstrations.

Hernandez, John W. "On Using More Energy, Not Less," Bogazici University Journal (Istanbul, Turkey), 1974.

Hernandez, John W., Curi, K., and Esen, I. "Solid Waste Disposal at the Istanbul University Hospital," Bogazici University Research Center Report, Istanbul, Turkey, 1974.

Hernandez, John W. "Environmental Design for Istanbul Sewage Disposal," (discussion of an article by Charles G. Gunnerson), Proceedings Paper No. 10343, Discussion Vol. 101, No. EF7, Journal of Sanitary Engineering Division (American Society of Civil Engineers), February 1975.

120

Turkey

P3F0128-R/T [1973]

Geological Engineering

Robert A. Lohnes
Department of Civil Engineering
Iowa State University
of Science and Technology
Ames, Iowa 50011

Altay Birend, Chair
Department of Civil Engineering
Middle East Technical University
Ankara, Turkey

Taught courses in soil behavior fundamentals, geological engineering, soil stability, clay mineralogy, and rock mechanics. Developed course in engineering site evaluation. Developed soil science and geological engineering curricula. Assisted in evaluating existing courses. Organized soil research laboratory.

121

Turkey

P3F0158-R/T [1973]

Geology

Paul D. Proctor
Water Resources Research Center
University of Missouri
Rolla, Missouri 65401

Middle East Technical University
Ankara, Turkey

Studied geological structure and outlines to gain information on possible occurrence of petroleum and mineral deposits. Developed curriculum and taught graduate courses in geology.

122

Turkey

P3F0123-R/T [1973]

Geological Engineering

Lyle V.A. Sendlein
Department of Earth Sciences
Iowa State University
of Science and Technology
Ames, Iowa 50011

Middle East Technical University
Ankara, Turkey

Developed soil science and geological engineering curriculum. Taught course in fundamentals of soil behavior. Organized soil research laboratory. Assisted in establishing applied geology research laboratory. Formulated new series of courses in geological engineering field instruction.

123

Turkey

Travel [1974].

Oceanography

F.G. Walton Smith
Rosenstiel School of Marine
and Atmospheric Science
University of Miami
Miami, Florida 33149

Middle East Technical University
Ankara, Turkey

Advised on plans for developing department of oceanography.

Turkey

124

Turkey

P4F0207-R/T [1974]

Environmental Engineering

Roscoe F. Ward
Department of Civil Engineering
University of Massachusetts-Amherst
Amherst, Massachusetts 01002

Vedat Yerlki
Bogazici University
Istanbul, Turkey

Strengthened masters program in engineering. Developed doctoral program in engineering. Conducted research on water supply, wastewater treatment, and solid waste disposal.

125

Turkey

OIP75-11207-T [1975]

Geology

Paul D. Proctor
Department of Geology and Geophysics
University of Missouri
301 Norwood Hall
Rolla, Missouri 65401

Middle East Technical University
Ankara, Turkey

Conducted study of geology and mineral-petroleum potential in Ergani-Maden-Guleman areas. Prepared geologic maps of region known to contain copper, oil, and other potential economically important minerals.

126

Turkey

INT77-07134-T [1977]

Biochemistry

Roger D. Bauer
School of Natural Sciences
California State University-Long Beach
1250 Bellflower Boulevard
Long Beach, California 90840

Kizilirmak, Dean
Ege University
Izmir, Turkey

Provided consultation on academic programs in biochemistry and related areas. Planned for future inter-institutional projects.

127

Turkey

INT77-07769-R/T [1977]

Environmental Impact

Nail M. Senozan
Department of Chemistry
California State University-Long Beach
1250 Bellflower Boulevard
Long Beach, California 90840

Burhan Pekin, Head
Physical Chemistry Department
Ege University
Izmir, Turkey

Analyzed blood pigments of economically important marine fauna (including lobster, shrimp, crab, octopus, etc.) as possible indicators of metal ion pollution. Identified metal content and respiratory function of marine fauna.

128

Turkey

INT77-08109-R/T [1977]

Energy Technology

William D. Van Vorst
Department of Engineering
University of California-Los Angeles
5405 Boelter Hall
Los Angeles, California 90024

Ibrahim Kavrak, Chair
Department of Industrial Engineering
Bogazici University
Istanbul, Turkey

Collaborated with faculty members on constructing national energy models. Conducted study of and taught course in energy conversion systems and technology. Directed studies on industrial energy conservation. Presented workshop on assessing new energy sources and conservation options. Presented seminars on hydrogen as potential engine fuel. Developed energy information systems.

Philippines, Indonesia,
Malaysia, Thailand

INT77-07133-R/T [1977]

Biology

Armando A. de la Cruz
Department of Zoology
Mississippi State University
Mississippi State,
Mississippi 39762.

Aprilant Soejarto
National Institute of
Geology - LIDI
Jakarta Utara, Indonesia

Mack Boonbham
Faculty of Fisheries
Department of Entomology
Kasetsart University
Bangkok 9, Thailand

Eduardo Gomez, Director
Marine Science Center
University of Philippines
Quezon City, Philippines

Oscar M. Policarpio
Southern Capitol Colleges
Oroqueita City 9908
Philippines

Department of Zoology
University of Malaysia
Kuala Lumpur, Malaysia

Introduced new courses in ecology in the Philippines. Conducted study of local mangrove and nipa palm swamps. Presented seminars and lectures at institutions in East Asia.

de la Cruz, Armando A. "The Role of Elementary and Secondary Teachers in Environmental Education," The Philippine Biota 12(2):48-51, 1977.

de la Cruz, Armando A. "Ecosystem Coupling in the Estuary," NSDB Technology Journal 4(1):16-25, 1979.

de la Cruz, Armando A. "The Blue Revolution: Looking for the Miracle Fish," NSDB Technology Journal 4(2):22-27, 1979.

de la Cruz, Armando A. "The Functions of Mangroves." In: Mangrove and Estuarine Vegetation in Southeast Asia. Biotrop Special Publication No. 10, Bogor, Indonesia, 1979.

de la Cruz, Armando A. "Realistic Approach to the Management of Mangroves in Southeast Asia." Presented at the 2nd International Symposium on Biology and Management of Mangroves and Other Tropical Shallow Water Communities, July 19-31, 1979, Port Moresby, Papua New Guinea.

de la Cruz, Armando A. "Economic and Ecologic Evaluation of Alternative Uses of Mangroves in Southeast Asia." In: Proceedings of Workshop on Mangrove Research and Management in Southeast Asia, Kuala Lumpur, Malaysia, 1980.

de la Cruz, Armando A. "The Management of Mangrove Swamps in Southeast Asia." Biotrop 10th Anniversary Volume, Bogor, Indonesia, 1980.

130

Sri Lanka, Philippines,
Indonesia, Japan, Korea,
Taiwan, India

INT77-07138-T [1977]

Rice Production

Merle L. Esmay
Department of Agricultural
Engineering
Michigan State University
East Lansing, Michigan 48824

D.B. de Padua, Dean
Institute of Agricultural
Engineering and Technology
University of the Philippines
at Los Banos College
Laguna, Philippines

James E. Wimberly
International Rice
Research Institute
Sri Lanka Ford Foundation
Rice Processing Project
Paddy Marketing Board
P.O. Box 205
Colombo 5, Sri Lanka

Conducted research on post rice production technology and losses in the tropics. Presented seminars in several countries on research, graduate training, curricula, energy conservation, solar energy, post production technology, and appropriate technology. Visited small local manufacturers to gather information on development level and available machine types for agricultural mechanization in each country.

Esmay, Merle L., et al. "Appropriate Post Rice Production Technology in Southeast Asia," CIGR Paper III-2-26, East Lansing, Michigan, July 1979.

Ilangantileke, S., Esmay, Merle L., and Phillips, A. "Post Rice Production In-field Losses in Sri Lanka," ASAE Paper No. 79-5060, 1979.

131

Indonesia, Malaysia,
Philippines, Singapore,
Thailand

INT78-21879-R/T [1978]

Mathematics

Dwight E. Lippe
Department of Mathematics
Eastern Oregon State College
La Grande, Oregon 97850

Devan Velayadhan, Training Officer and
Chin Pin Seng, Director
Regional Center for Education in
Science and Mathematics
Glugor, Penang, Malaysia

Collaborated on developing self-instructional consumer and vocational mathematics teaching materials. Conducted limited trials, testing, and revisions of materials.

Multi-country

132

Papua New Guinea,
Philippines

INT79-20602-T [1979]

Mangrove Ecology

Armando A. de la Cruz
Department of Zoology
Mississippi State University
Mississippi State, Mississippi 39762

Eduardo Gomez, Director
Marine Science Center
University of Philippines
Quezon City, Philippines

Second International Symposium on
the Biology and Management of
Mangroves and Other Tropical
Shallow Water Communities
Port Moresby, Papua New Guinea

Presented two papers at Second International Symposium on the Biology and
Management of Mangroves and Other Tropical Shallow Water Communities.
Proposed cooperative research project on mangrove ecology.

Latin America



133

Bolivia

INT76-10690-R/T [1976]

Agriculture

Robert E. Frans
 Department of Agronomy
 University of Arkansas-
 Fayetteville
 Route 11, Box 83
 Fayetteville,
 Arkansas 72701

Cober Barja Berrios
 Director General
 Ministry of Agriculture
 La Paz, Bolivia

Alberto Natusch Busch
 Ministry of Rural and
 Farm Affairs
 La Paz, Bolivia

Measured potential for comprehensive science effort to increase productivity of several important food and fiber crops. Conducted field plot research on weed control methods. Engaged in teaching and extension programs related to weed problems, as well as to classification weeds and their changing ecology. Planned for program of continuing collaborative research.

Frans, Robert E., et al. "Investigaciones Sobre Control de Malezas en Cultivos de Bolivia, 1976-1977." Consortium for International Development, La Paz, Bolivia, 1977, Documento de Trabajo No. 013/77.

134

Bolivia

INT77-12565-R/T [1977]

Agriculture

Robert E. Frans
 Department of Agronomy
 University of Arkansas-Fayetteville
 Route 11, Box 83
 Fayetteville, Arkansas 72701

Alberto Natusch Busch
 Ministry of Rural and Farm Affairs
 La Paz, Bolivia

Studied potential for increasing food and fiber crop productivity through new strategies for weed control. Correlated field plot research on alternative methods with short teaching course and extension program development.

Toliver, F.E., Frans, Robert E., Paniagua, O., and Lara, R. "Weed Control Investigations in Bolivia Crops, 1977-1978." Report No. 2, Centro de Investigacion Agricola Tropical, Santa Cruz, Bolivia, 1979.

135

Bolivia INT78-16644-T [1978] Urban Land Use

C.W. Minkel, Associate Dean
International Studies and Programs
Michigan State University
East Lansing, Michigan 48824

Alvaro Fernandez, Director
Geological Service of Bolivia
La Paz, Bolivia

Directed program of urban land use analysis and population-migration research.

136

Brazil P2F0276-R/T [1972] Economics

S.A. Billon
College of Business Administration
University of Delaware
Newark, Delaware 19711

Adao Raupp
Ministry of Education and Culture
Faculty of Economics Sciences
Federal University of Rio Grande do Sul
Porto Alegre, Rio Grande do Sul, 90000
Brazil

Developed integrated systems model for planning and evaluating new industrial projects in underdeveloped regions. Conducted study of appropriate technology level for specific stage of industrial development. Improved cost-benefit forecasts. Taught postgraduate courses to business and government officials.

137

Brazil P2F0249-T [1972] Nutrition

G. Richard Jansen
Department of Food Science and Nutrition
Colorado State University
Fort Collins, Colorado 80523

J.E. Dutra de Oliveira
Department of Nutrition
University of Sao Paulo
P.O. Box 201
Sao Paulo, Brazil

Initiated joint research project focusing on interaction between food technology and human nutrition, analyzing nutrients in diet and food, processing bean products, storage and marketing, and developing food products from new Brazilian crops.

Jansen, G. Richard, Jansen, N.B., Shigetomi, C.T., and Harper, J.M. "Effect of Income and Geographic Region on the Nutritional Value of Diets in Brazil," American Journal of Clinical Nutrition 30:955-964, 1977.

138

Brazil

P2F0272-R/T [1972]

Geology

Peter L. Siems
 Department of Geology
 University of Idaho
 Moscow, Idaho 83843

Adelaide Mussi Santos, Head
 Department of Geochemistry
 Federal University of Bahia
 Salvador, Bahia, Brazil

Held lectures and provided laboratory and field instruction on geochemical exploration. Updated curricula and lectured on developments in mineral exploration in other universities.

Siems, Peter L., Brim, R.J.P., Mattoso, S.Q., and Sieffermann, G.R.
 "Secondary Dispersion of Copper in a Tropical Environment, Near Maragojipe, State of Bahia, Brazil," American Institute of Mining Engineers Reprint 72-L-35, 1972, 24 pp.

Siems, Peter L., Brim, R.J.P., Mattoso, S.Q., and Bautista Vidal, J.L.
 "Geochemical Exploration in an Area of Thick Transported and Residual Soils, Bahia, Brazil." In: 4th International Geochemical Exploration Symposium Program, April 1972.

Siems, Peter L. "Geochemical Exploration Programs in Bahia, Brazil," Mines Magazine, April 1972, pp. 10-12.

139

Brazil

P2F0343-T [1973]

Nutrition

Judson M. Harper
 Department of Agricultural Engineering
 Colorado State University
 Fort Collins, Colorado 80523

J.E. Dutra de Oliveira
 Department of Nutrition
 University of Sao Paulo
 P.O. Box 201
 Sao Paulo, Brazil

Defined collaborative research program to improve human nutrition on economically sound basis through 1) improved processing, storage, fortification, marketing, and utilization of existing bean products, and 2) development, testing, marketing, and utilization of new food products based on beans, manioc, and cereals.

Harper, Judson M. "Narrative Report on the Potential for Collaborative Research on Nutrition Problems Between Brazilian Counterparts and American Universities." Report submitted to National Science Foundation on grants GF-34478 and GF-34466, December 15, 1972.

Brazil

140

Brazil

OIP74-10330-T [1974]

Structural Analysis

Johann Arbocz
Department of Aeronautics
Northrup University
Inglewood, California 90306

Olegario Perez, Head
Department of Aeronautical Engineering
Technical Institute of Aeronautics
San Jose dos Campos, Brazil

Assisted in planning research program in structural analysis.

141

Brazil

OIP74-10129-R/T [1974]

Agriculture

David G. Francis
Department of Agricultural
Economics and Rural Sociology
Ohio State University
Columbus, Ohio 43210

Joaquim Jose de Camargo Engler, Chair
Department of Applied Social Sciences
Higher School of Agriculture
"Luiz de Queiroz"
University of Sao Paulo
Sao Paulo, Brazil

Collaborated with faculty on new course curriculum development and various ongoing research projects.

Francis, David G. "Desenvolvimento Agricola e Extensao Rural No Estado de Sao Paulo," Revista de Economia Rural (Sociedade Brasileira de Economia Rural), 1976.

142

Brazil

OIP75-09235-T [1975]

Natural Resources

Mack M. Gilkeson
Department of Engineering
Harvey Mudd College
Claremont, California 91711

Lynaldo Cavalcanti de Albuquerque, Director
and Luiz Jose do Almeida
Coordinator of Postgraduate Programs
Polytechnic School
Federal University of Paraiba
Campina Grande
Paraiba, Brazil

Studied industry-university liaison and scope for developing self-sustaining, collaborative relationships between Brazilian universities and industries. Encouraged effective management and best utilization of natural resources.

67

143

Brazil

OIP75-09240-R/T [1975]

Plant Pathology

Joe F. Hennen
Department of Botany and Plant Pathology
Purdue University
West Lafayette, Indiana 47907

Victoria Rosetti, Director
Division of Plant Pathology
Secretary of Agriculture
Biological Institute of Sao Paulo
Avenida Rodriguez Alves, 1252
Caixa Postal 7119
Sao Paulo, Brazil

Conducted field studies of economically important plant diseases caused by rust fungi. Collected and studied vouchers, references, and research specimens. Obtained ecological and life cycle information. Established morphological characteristics of rust species and diagnostic features of rust diseases. Presented course in rust biology and taxonomy. Prepared manual for diagnosis of economically important plant diseases.

Hennen, Joe F. and Figueiredo, M.B. "The Occurrence of Teliospores of Puccinia Arachidis on Arachis Hypogaea in Sao Paulo State, Brazil," Summa Phytopathologica 2:44-46, 1976.

Pitta, G.P.B., Cardoso, R.M.G., and Hennen, Joe F. "Occorrenca da Ferrugem Branca (Puccinia Horiaria P. Henn.) do Chrysantemo (Chrysanthemum) No Estado do Sao Paulo," Summa Phytopathologica 3:75-80, 1977.

Hennen, Joe F. and Ono, Y. "Cerradoa Palmaea: The First Rust on Palmae," Mycologia 70:569-576, 1978.

Cardoso, R.M.G., Pitta, G.P.B., and Hennen, Joe F. "Occorrenca de um Ferrugem Sobre Anthurium sp. No Brasil," Fitopatologia Brasileira 3:111-112, 1978.

Hennen, Joe F. and Figueiredo, M.B. "Intrapes, a New Genus of Fungi Imperfecti (Uredinales) from Brazilian Cerrado," Mycologia 71:836-840, 1979.

Figueiredo, M.B. and Hennen, Joe F. "The Occurrence of Puccinia Tanacetii D.C. on Artemesia Pontica L. in Sao Paulo State, Brazil," Fitopatologia Brasileira 4:427-429, 1979.

144

Brazil

OIP75-09236-T [1975]

Civil Engineering

Ray Morales
Department of Civil Engineering
California Polytechnic State
University-Pomona
3801 West Temple Avenue
Pomona, California 91768

Luiz Jose do Almeida
Coordinator of Postgraduate Programs
Federal University of Paraiba
Polytechnic School
Campina Grande
Paraiba, Brazil

Explored feasibility of initiating and institutionalizing collaborative relationships between Brazilian universities and local industry.

Brazil

145

Brazil

OIP76-06170-R/T [1976]

Industrial Engineering

Mack M. Gilkeson
Department of Engineering
Harvey Mudd College
Claremont, California 91711

Lynaldo Cavalcanti de Albuquerque, Director
and Luiz Jose do Almeida
Coordinator of Postgraduate Programs
Polytechnic School
Federal University of Paraiba
Campina Grande
Paraiba, Brazil

Assisted in developing joint industry-education programs to reduce isolation of university and local enterprise, to improve masters and doctoral training programs, and to enhance quantitative approach in undergraduate laboratory and lecture courses.

Gilkeson, Mack M. and Sant'Anna, A. "Administration of University Programs Involving Joint Action of University and Enterprise." In: Proceedings of the Seventh PanAmerican Congress on the Teaching of Engineering. XIV UPADI Convention, Rio de Janeiro, October 3-10, 1976, pp. 141-174.

146

Brazil

OIP76-06896-R/T [1976]

Stabilization Lagoons

Ray Morales
Department of Civil Engineering
California Polytechnic State
University-Pomona
3801 West Temple Avenue
Pomona, California 91768

Luiz Jose do Almeida
Coordinator of Postgraduate Programs
Federal University of Paraiba
Polytechnic School
Campina Grande
Paraiba, Brazil

Assisted in developing joint industry-university program to improve flow and use of technological information. Conducted research and training focusing on using stabilization lagoons as part of local wastewater treatment system.

147

Brazil	INT76-84627-T [1976]	Photochemistry
Richard G. Weiss Department of Chemistry Georgetown University 1400 37th Street, NW Washington, DC 20057	Nilmar V.P. da Rocha, Chair Department of Organic Chemistry Federal Public Service Ministry of Education and Culture Federal University of Bahia Salvador, Bahia, Brazil	Alaide de Oliveira Institute of Exact Sciences Federal University of Minas Gerais Belo Horizonte Minas Gerais, Brazil

Taught photochemistry course. Initiated photochemical research program. Presented seminar on principal investigator's American research program.

148

Brazil	INT77-07037-T [1977]	Plant Pathology
Joe F. Hennen Department of Botany and Plant Pathology Purdue University West Lafayette, Indiana 47907	Mario Figueiredo Biological Institute of Sao Paulo Sao Paulo, Brazil	

Collaborated on study of plant pathogens in parts of Brazil designated for future agricultural development.

149

Brazil	INT77-07361-R/T [1977]	Plant Pathology
Norman W. Schaad Department of Plant Pathology University of Georgia-Experiment Georgia Station Experiment, Georgia 30212	Jose Carmine Dianese, Director Institute of Biological Science University of Brasilia Brasilia, Brazil	

Identified different strains of Pseudomonas solanacearum, a bacterium which causes Moko disease (plant wilt and heavy losses in production), in potatoes, tomatoes, bananas, and tobacco. Trained scientists to use serological tests to identify plant pathogenic bacteria. Assessed methods for reducing losses in production due to plant wilt.

Schaad, Norman W., Takatsu, A., and Dianese, J.C. "Serological Identification of Strains of Pseudomonas Solanacearum in Brazil." Station de Pathologie Vegetale et Phytobacteriologie, ed., Proceedings of the 4th International Conference on Plant Pathology and Bacteriology, Angers, France 1978.

Brazil/Chile

150

Brazil

INT80-06385-R/T [1980]

Plant Physiology

Jochen Kummerow
Department of Botany
College of Sciences
San Diego State University
San Diego, California 92182

Center for Cocoa Investigation
Itabuna, Brazil

Studied effects of seasonal variation in rainfall on fine root activity in northern Brazilian cocoa plantation.

151

Chile

P3F0133-T [1973]

Chemical Engineering

Shiao-Hung Chiang
Department of Chemical and
Petroleum Engineering
University of Pittsburgh
Pittsburgh, Pennsylvania 15261

Daniel Alkalaj, Head
Graduate Studies
and Claudio Moraga
Technical University Federico Santa Maria
Valparaiso, Chile

Taught graduate courses in advanced transport phenomena and advanced chemical engineering kinetics. Presented seminars on interphase mass transfer, interfacial phenomena, and mass transfer research problems.

152

Chile

P3F0119-T [1973]

Oceanography

Victor T. Neal
School of Oceanography
Oregon State University
Corvallis, Oregon 97331

Paul Herrera, Director and
Hellmuth A. Sievers, Head
Department of Oceanography
Hydrographic Institute
of the Navy
Valparaiso, Chile

Paul Allard, Rector
Catholic University
of Valparaiso
Valparaiso, Chile

Assisted in developing educational oceanography program. Evaluated and revised proposed curriculum. Offered suggestions for laboratory exercises and field research. Prepared detailed course syllabi.

153

Chile

P4F0170-R/T [1974]
OIP75-15538-R/T [1975]

Oceanography

Steve Neshyba
Department of Oceanography
Oregon State University
Corvallis, Oregon 97331Esteban Morales, Director
Program of Oceanography
Catholic University of Valparaiso
Valparaiso, Chile

Assisted in developing oceanography curriculum. Developed plans for collaborative study of Chilean Archipelago waters. Advanced plans for other collaborative projects.

Neshyba, Steve and Mendez, R. "Analysis of Sea Surface Temperatures as Indicators of Surface Water Movement in the S.E. Pacific," Revista de Comission Permanente del Pacifico Sur 5:129-137, 1976.

Neshyba, Steve and Fonseca, T. "Evidence for Counterflow to the West Wind Drift off South America," Journal of Geophysical Research 85(C9):4888-4892, 1980.

154

Chile

OIP75-08848-T [1975]

Chemical Engineering

Robert W. Lenz
Department of Chemical Engineering
University of Massachusetts-Amherst
Amherst, Massachusetts 01002Juan Bartulin
Department of Organic Chemistry
University of Concepcion
Concepcion, Chile

Participated in developing graduate level program in polymer science and engineering.

Chile

155

Chile

INT76-09096-R/T [1976]

Salt Extraction

Richard L. Bell
Department of Chemical
Engineering
University of California-
Davis
Davis, California 95616

Alvara Gonzalez Leterier
Director, Technological
Chemistry Department
Casilla 2777
University of Chile
Santiago, Chile

Jaime Lavados, Director
Technical Office of
Scientific Development
and Artistic Creation
University of Chile
Santiago, Chile

Guido Pincheira
Director of Research
University of Chile
Santiago, Chile

Enrique D. Etigny
Prorector
University of Chile
Santiago, Chile

Collaborated on study of extracting inorganic salts using solution of carboxylic acids and amines in organic solvent. Conducted research on novel extraction methods appropriate to recovering lithium salts.

156

Chile

INT76-12223-R/T [1976]

Forest Entomology

Robert I. Gara
College of Forest Resources
University of Washington
Seattle, Washington 98195

Hernan Peredo Lopez, Head
Institute of Forest Defense
University Austral of Chile
Casilla 567
Valdivia, Chile

Gonzalo Estevez, Dean
Faculty of Forest Engineering
University Austral of Chile
Valdivia, Chile

Established national survey and control system for insect pests of Valdivian forests. Continued and expanded research program. Taught courses in forest entomology.

Gara, Robert I. and Cerda, L. "El Afido Adelges un Problema Serio para los Abies Chilenos," Chile Forestal 3:15, 1978.

Gara, Robert I., Carey, P., Cameron, S., and Cerda, L. "Ciclo Estacional de un Minador Subcortical de Coigue (Nothofagus Dombeyi)," Turrialba 28:151-153, 1978.

Gara, Robert I. Proteccion Forestal en Chile: Proposicion de un Plan Nacional. FAO. UNDP/CHI/76/003. Documento de Trabajo No. 12. Santiago, Chile, 1978, 94 pp.

Gara, Robert I., Cerda, L., and Krahmer, E. "Sobre la Emergencia y Vuelo de dos Cerambicidos Chilenos: Holopterus Chilensis y Cheloderus Childreni," Turrialba 28:117-121, 1978.

157

Chile

INT76-12203-T [1976]

Oceanography

Roderick S. Mesecar
 School of Oceanography
 Oregon State University
 Corvallis, Oregon 97331

Raimundo A. Villarroel, Head
 School of Electronics and
 Mario Bahamondes, Head
 Applications Laboratory of Electronics
 and Sciences of the Sea
 Catholic University of Valparaiso
 P.O. Box 4059
 Valparaiso, Chile

Assisted in evaluating newly implemented ocean technology service program. Held seminars and conference presentations on marine technology, biological research sampling gear, current meter development, mooring concepts, underwater releasing equipment, test facilities, inexpensive buoys, sediment samplers, water sampling equipment, sea water conductivity measuring system, and bathyal irradiance measurements.

158

Chile

INT77-08230-T [1977]

Mariculture

Wilbur P. Breese
 Oregon State University
 Marine Science Center
 Newport, Oregon 97365

Esteban Morales
 Faculty of Natural Resources
 Catholic University
 of Valparaiso
 Valparaiso, Chile

Hernan Danyau Quintaria
 Rector
 University of North-Chile
 Antofagasta, Chile

Explored opportunities for establishing commercially viable mariculture projects.

Mia, Michael and Breese, Wilbur P. "A Cellular Proliferation Disorder in Oysters (*Ostrea Chilensis*) from Chile, South America," Journal of Investigative Pathology 36:123-124, 1980.

Chile/Colombia

159

Chile

INT77-07131-T [1977]

Wood Decay

Frank H. Tainter
Department of Plant Pathology
University of Arkansas-
Fayetteville
Fayetteville, Arkansas 72701

Juan F. Donoso
Faculty of Forest Sciences
University of Chile
Casilla 9206
Santiago, Chile

Julio Ponce Leron
Forestry Engineer
Executive Director
Forestal Institute
Santiago, Chile

Surveyed wood decay fungi found in dwellings. Conducted research on test procedures appropriate for establishing wood decay resistance under local conditions.

Greenwood, B.F. and Tainter, Frank H. "Comparative Decay Resistance of Paraguayan Woods," Turrialba 30:137-139, 1980.

160

Colombia

P2F0262-T [1972]

Mechanical Engineering

William Rudoy, Dean
Department of Mechanical Engineering
University of Pittsburgh
Pittsburgh, Pennsylvania 15261

Carlos J. Amaya, Dean
Faculty of Engineering
University of Los Andes
Apartado Aereo 4976
Bogota, Colombia

Taught course in refrigeration, air conditioning, and industrial ventilation. Increased awareness of better teaching and learning methods.

161

Colombia

P2F02373-T [1972]

Chemical Engineering

Leonard A. Wenzel
Department of Chemical Engineering
Lehigh University
Whitaker Lab Building 5
Bethlehem, Pennsylvania 18015

Carlos F. Guerra, Rector
Industrial University of Santander
Apartado Aereo 678
Bucaramanga, Colombia

Planned research activities regarding building materials incorporating local products, production problems found in processing tropical fruits, and the effects of tall buildings on social and organizational fabric of a city.

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162

Colombia

P2F0342-T [1972]

Science Education

Robert C. Williamson
 Department of Social Relations
 Lehigh University
 Bethlehem, Pennsylvania 18015

Carlos F. Guerra, Rector
 Industrial University of Santander
 Apartado Aereo 678
 Bucaramanga, Colombia

Explored immediate and long range goals of University of Santander and possible collaboration with Lehigh University.

163

Colombia

P3F0146-T [1973]

Metallurgy

Donald L. Ritter
 Department of Metallurgy and
 Materials Science
 Lehigh University
 Bethlehem, Pennsylvania 18015

Carlos F. Guerra, Rector
 and Daira Sanchez Puyana
 Dean of Research
 and Edgar Paez, Dean
 Postgraduate Studies
 Industrial University of Santander
 Apartado Aereo 678
 Bucaramanga, Colombia

Developed polymer impregnation of concrete to improve roads and buildings.
 Developed chemical intermediates from castor oil beans.

164

Colombia

OIP74-09017-R/T [1974]

Water Management

James A. Liggett
 School of Environmental
 Engineering
 Cornell University
 Hollister Hall
 Ithaca, New York 14853

Alberto Patino Mejia, Head
 Department of Water
 Regional Independent
 Corporation of Cauca
 Central Mortgage Bank
 Building
 Cali, Colombia

Guillermo Falk
 Dean of Engineering
 University of Valle
 Area de Fluidos
 Apartado Aereo
 Cali, Colombia

Participated in teaching and research concerning sedimentation, erosion, and landslides. Studied unsteady flow and river dynamics, including pollution and flooding of Cauca River.

Colombia

165

Colombia

P4F0194-T [1974]

Hydraulics

Daryl B. Simons
Department of Civil Engineering
Engineering Research Center
Colorado State University
Fort Collins, Colorado 80523

Fabio Castreilour, Coordinator
With Latin American Congress of the Inter-
national Association of Hydraulics Research
Apartado Aereo 25821
Bogota, Colombia

Served as principal speaker at Sixth Latin American Congress of the International Association of Hydraulic Research. Presented lecture on quantitative geomorphology of rivers and mechanics of river flow.

Simons, Daryl B. "Quantitative Geomorphology of Rivers." Presented at the 15th Latin-American Congress of the International Association of Hydraulic Research, Bogota Colombia, July 1974.

166

Colombia

OIP75-09394-T [1975]

Transplanted Technologies

William D. Drake
School of Natural Resources
University of Michigan
Ann Arbor, Michigan 48109

University of Valle
Cali, Colombia

Planned for future research seminars regarding unanticipated effects of transplanted technologies.

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Colombia

OIP75-22989-T [1975]

Metallurgy

Donald L. Ritter
Department of Metallurgy and
Materials Science
Lehigh University
Bethlehem, Pennsylvania 18015

Carlos F. Guerra, Rector
Industrial University of Santander
Apartado Aereo 678
Bucaramanga, Colombia

Strengthened collaborative research program with Andean universities.

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Colombia

INT76-843555-R/T [1976]

Nuclear Technology

John R. Wilson
 Department of Chemistry
 Shippensburg State College
 Shippensburg, Pennsylvania 17257

Institute of Nuclear Affairs
 Bogota, Colombia

Assisted in operating gamma source, devising experiments, and establishing additional uses for gamma source in industry and education. Taught courses and presented seminars on activation analysis and gamma radiation applications. Assisted in developing economical resources such as mineral exploration and agricultural development.

169

Colombia

INT77-08105-R/T [1977]

Mathematics

Shair Ahmad
 Department of Mathematics
 Oklahoma State University
 Stillwater, Oklahoma 74074

Eliseo Moreno Pareja, Rector
 and Ivan Sierra Garcia
 University of Antioquia
 Medellin, Colombia

Orion Alvarez, Rector
 and Diego Salazar Henao
 Department of Mathematics
 University of Medellin
 Medellin, Colombia

Contributed to improving mathematics instruction in Colombian universities by teaching, giving seminars, and conducting research.

Ahmad, Shair. "N-dimensional Extension of Sturm Comparison and Separation Theorems," SIAM Journal on Mathematical Analysis (Society for Industrial and Applied Mathematics), 1978.

170

Colombia

INT77-07369-R/T [1977]

Management Development

James E. Boyce
 Department of Management
 Michigan Technological University
 Houghton, Michigan 49931

Gonzalo Arboleda Palacio
 Deputy Director
 Development Center of Antioquia
 Medellin, Colombia

Stimulated more effective development of business managers and their organizations through applying social science research techniques. Established continuing research relationship between two Colombian and two American institutions of higher learning.

Boyce, James E. "Comparison of Perceptions of Administrative Behavior in Managers in Colombia and the U.S.A." Presented at the International Congress of Applied Psychology, Munich, Germany, August 1978.

Colombia/Costa Rica

171

Colombia

INT77-07149-T [1977]

Mathematics

William R. Derrick
Department of Mathematics
University of Montana
Missoula, Montana 59801

Alonso Takahaski, President
Colombian Mathematical Society
University of Valle
Apartado Aereo 2188
Cali, Colombia

Presented courses at Seventh Annual Mathematics Colloquium. Collected climatological data from 55 meteorological stations.

Derrick, William R. "Metodos Topologicos en Analisis," Boletin de Matematicas (Sociedad Colombiana de Matematicas) 2:1-58, 1977.

172

Colombia

INT77-08104-T [1977]

Pediatrics

Alberto Hayek
Department of Pediatrics
School of Medicine
University of New Mexico-Albuquerque
Albuquerque, New Mexico 87131

A. Escallon, Dean
Medical School
Xaveriana University
Bogota, Colombia

Presented postgraduate course in recent advancements in pediatrics covering growth and development, infectious disease, endocrinology, metabolism, renal disease, immunology, and respiratory problems.

173

Costa Rica

P2F0284-T [1972]

Geology

Jelle de Boer
Department of Geology
Wesleyan University
Middletown,
Connecticut 06457

Cesar Dondoli, Chair
Central American School
of Geology
University of Costa Rica
San Jose, Costa Rica

Fernando Naranjo, Director
Institute of Economic
Investigation
University of Costa Rica
San Jose, Costa Rica

Conducted geological mapping survey along Pacific coastline exploring occurrences of iron and other metal deposits.

174

Costa Rica

OIP75-09737-T [1975]

Geology and Economics

Jelle de Boer
 Department of Geology
 Wesleyan University
 Middletown,
 Connecticut 06457

Cesar Dondoli, Chair
 Central American School
 of Geology
 University of Costa Rica
 San Jose, Costa Rica

Fernando Naranjo, Director
 Institute of Economic
 Investigation
 University of Costa Rica
 San Jose, Costa Rica

Lisano
 Economist and Advisor to
 President of Costa Rica
 Costa Rica

Resolved questions regarding planned inter-institutional collaboration in economics and geology.

175

Costa Rica

INT77-15936-T [1977]

Forest Hydrology

Robert E. Dohrenwend
 Department of Forestry
 Michigan Technological University
 Ford Forestry Center
 L'Anse, Michigan 49946

Frank Zedroga
 Forest Hydrology and
 Gerardo Budowski, Head
 Center for Agriculture of Turrialba
 Investigation Studies (C.A.T.I.E.)
 Turrialba, Costa Rica

Investigated changes in cloud moisture interception relevant to changing land use in montane tropics. Examined availability and quality of current hydrologic and climatic data and models, instrumentation, and experimental design problems. Designed methodology for cloud interception estimations and evapotranspiration observations. Studied physics of cloud droplet interception process, as well as cloud behavior along mountains.

176

Costa Rica

INT77-2242-T [1977]

Botany

C.A. Schroeder
 Department of Biology
 University of California-Los Angeles
 405 Hilgard Avenue
 Los Angeles, California 90024

Jorge Leon, Head
 Genetic Resources Program
 Center for Agriculture of Turrialba
 Investigation Studies (C.A.T.I.E.)
 Turrialba, Costa Rica

Investigated heat emission from inflorescence of pejibaye palm as related to aspects of floral development and fruit set in species.

Schroeder, C.A. "Temperature Elevation in Palm Inflorescences," Principes (Palm Society, Inc.) 22(1):26-29, January 1978.

Costa Rica

INT78-21363-R/T [1978]

Marine Isopods

Richard C. Brusca
Department of Biological Sciences
University of Southern California
University Avenue
Los Angeles, California 90007

Freddy Pacheco Leon, Subdirector
School of Biological Sciences
National University
Heredia, Costa Rica

Assisted in developing significance of marine isopod Crustacea and their role in sediment turnover. Conducted research on marine isopods of Pacific Costa Rica and on isopod crustaceans of tropical East Pacific. Engaged in formal teaching, direction of graduate students, and collaborative work with local faculty.

Brusca, Richard C. "The Isopods of Costa Rica," Reviews in Tropical Biology (Costa Rica), no date.

Brusca, Richard C. "A Monograph on the Apmothoid Isopods of the Eastern Pacific," Journal of Zoology (Zoological Society of London), no date.

Brusca, Richard C. "On the Status of the Enigmatic Cymothoid Isopod, Braga Occidentalis," Bulletin of the Southern California Academy of Sciences, no date.

Dominican Republic

OIP76-10954-R/T [1976]

Geology

John F. Lewis
Department of Geology
George Washington University
2029 G Street, NW
Washington, DC 20052

Iran Tavares, Director
Department of Geology and Mineralogy
National Museum of Natural History
Plaza de Cultura
Cesar Nicolas Penson
Santa Domingo, Dominican Republic

Gastone Lanzo
Department of Geology and Mining
Catholic University Madre y Maestra
Dominican Republic

Assisted in establishing geology departments at National Museum of Natural History and at Catholic University Madre y Maestra. Implemented research and development program on geology of Cordillera Central. Assisted in promoting geological science programs and lectures.

179

Dominican Republic

INT78-06974-R/T [1978]

Fertilizer

Frank A. Erickson
Department of Geography
Kent State University
Kent, Ohio 44240

Juan A. Nunez,
Ruben Nunez and Cesar Lopez
Under Secretary of Planning
Secretary of State of Agriculture
Dominican Republic

Developed design of distribution system to make fertilizer available to small farms. Mapped location of small farms, transportation system, retail sales points, uniform physical regions, and crop production. Investigated distance decay of sales around established retail centers by applying user survey data and credit sales records. Conducted pilot survey of retail to farm portion of distribution system.

180

Ecuador

P3F0131-R/T [1973]

Agriculture

Robert R. Furgason
College of Engineering
University of Idaho
Moscow, Idaho 83843

J. Ruben Orellana, Rector
National Polytechnic School
P.O. Box 2759
Quito, Ecuador

Developed research program concerning production of commercial polymers from agricultural by-products. Taught course in chemical process economics and analysis. Revised curriculum.

181

Ecuador

Travel [1973]

Oceanography

Pierre J. Goosens
Department of Geology and
Geological Engineering
Michigan Technological University
Houghton, Michigan 49931

Oceanographic Institute
Guayaquil, Ecuador

Presented seminars and lectures on exploitation of mineral resources on ocean floor.

Ecuador

182

Ecuador

INT76-10313-R/T [1976]

Agriculture

John P. Bishop
University of Florida
Center for Tropical Agriculture
Gainesville, Florida 32611

Enrique Ampuero, Director
National Institute of Agricultural Research
P.O. Box 2600
Quito, Ecuador

Studied problems related to developing sustained-yield tropical agro-ecosystem in Upper Amazon Basin. Extended research on and training in tropical pasture/animal production. Initiated research on Upper Amazon Basin with integration of crop, animal, and forest production in "mixed" small farm production system.

Bishop, John P. "The Development of a Sustained Yield Agro-Ecosystem in the Upper Amazon," Agro-Ecosystems 4:459-461, 1973.

183

Ecuador

OIP76-10314-R/T [1976]

Computer Applications

Robert R. Furgason
College of Engineering
University of Idaho
Moscow, Idaho 83843

J. Ruben Orellana, Rector
National Polytechnic School
P.O. Box 2759
Quito, Ecuador

Taught three computer applications courses, including scheduling and routing techniques, cost estimating and accounting, and linear programming and other applications.

184

Ecuador

INT76-10532-R/T [1976]

Electronic Engineering

Odis P. McDuff
Department of Electrical Engineering
University of Alabama
P.O. Box 6169
University, Alabama 35486

J. Ruben Orellana, Rector
National Polytechnic School
P.O. Box 2759
Quito, Ecuador

Assisted in upgrading postgraduate electronic engineering program, including courses in telecommunications, automatic controls, and digital systems specializations. Designed new course and modified content of existing ones. Designed and taught course in UHF techniques. Presented several seminars on quantum mechanics.

185

Guatemala

P2F0239-T [1972]

Chemical Engineering

Arthur E. Humphrey
 School of Chemical Engineering
 University of Pennsylvania
 Philadelphia, Pennsylvania 19104

Jorge Arias, Head
 Training Division
 Central American Institute of Technological
 and Industrial Research (I.C.A.I.T.I.)
 Avenida 1a Reforma 4-47, Zona 10
 Guatemala

Planned cooperative program on production of single cell protein (SCP) from raw crushed sugar.

186

Guatemala

P3F0122-R/T [1973]

Nutrition Planning

Robert E. Stickney
 Department of Mechanical Engineering
 Massachusetts Institute of Technology
 Cambridge, Massachusetts 02139

Ivan D. Beghin, Chief
 Division of Applied Nutrition
 and Moises Be'har, Director
 Institute of Nutrition of
 Central America and Panama
 Carretera Roosevelt Zona 11
 Guatemala City, Guatemala

Applied systems analysis approach and techniques to nutrition planning. Performed preliminary analysis of existing data on nutritional status of population. Formulated objectives of future national nutrition program. Conducted comparative analysis of alternative strategies.

187

Guatemala

OIP75-15845-T [1975]

Industrial Engineering

Robert J. Craig
 Department of Industrial Engineering
 and Operations Research
 Virginia Polytechnic Institute
 and State University
 Blacksburg, Virginia 24061

Carlos Gonzalez-Campo, Dean
 Faculty of Industrial Engineering
 School of Engineering
 Rafael Landivar University
 17 Calle 8-64, Zona 10
 Guatemala

Participated in lectures and seminars concerning university capabilities, needs assessment, program design, systems development, and economic decision analysis.

84

188

Guatemala

OIP75-08738-T [1975]

Industrial Engineering

Walter J. Fabrycky
College of Engineering
Virginia Polytechnic Institute
and State University
339 Burruss Hall
Blacksburg, Virginia 24061

Carlos Gonzales-Campo, Dean
Faculty of Industrial Engineering
School of Engineering
Rafael Landivar University
17 Calle 8-64, Zona 10
Guatemala

Presented seminar and held discussions on industrial engineering with university faculty and industry representatives. Motivated faculty to begin needs assessment of local industry and to determine university capabilities for meeting those needs.

189

Guyana

OIP75-09243-R/T [1975]

Soil Science

Clarence H. James
Department of Civil Engineering
and Engineering Mechanics
Cleveland State University
1983 East 24th Street
Cleveland, Ohio 44115

C.H. Sohran, Head
Department of Civil Engineering
University of Guyana
Turkeyan Campus
Georgetown, Guyana

Taught courses in soil mechanics and foundation engineering. Conducted study of potential suitability of locally available materials for road and levee construction. Explored mechanical and chemical methods of stabilizing these materials. Assisted in collecting and cataloging engineering properties of soil found in Guyana sand-clay belt.

190

Haiti

INT77-22237-R/T [1977]

Conservation

Charles A. Woods
Department of Zoology
University of Vermont
Burlington, Vermont 05401

Reneot Leveille
and Joseph Wainwright
Department of Agriculture
and Natural Resources
Port-Av-Prince, Haiti
Republique d'Haiti

Trained wardens for nature reserves. Continued biological research and assisted in developing conservation program.

Woods, Charles A. "Status of Plagiodontia and Solenodon in Hispaniola," Oryx, 1981.

191

Honduras

P4F0195-T [1974]

Geotechnical Engineering

Ted S. Vinson
Department of Civil Engineering
Michigan State University
East Lansing, Michigan 48824

Mario Lopez Soto, Dean
and A. Andres Casco
School of Engineering
National Independent University of Honduras
Tegucigalpa, D.C.
Honduras

Conducted seminar on undergraduate laboratory practices in geotechnical engineering and on deep foundation settlements of structures, lateral earth pressures, and earthquake engineering. Lectured and provided consultation on geotechnical engineering research.

192

Honduras

INT77-21523-T [1977]

Environmental Science

Gregory S. Horne
Department of Earth and
Environmental Sciences
Wesleyan University
Middletown, Connecticut 06457

Pedro Garcia Ugarta
Director General
Secretary of State of Natural Resources
Tegucigalpa, D.C., Honduras

Established cooperative program with Republic of Honduras. Resolved stratigraphic problems related to exploration for petroleum and other natural resources.

193

Jamaica

INT76-20161-T [1976]

Coastal Resource Management

John M. Armstrong, Director
Coastal Zone Laboratory
University of Michigan
Ann Arbor, Michigan 48109

Richard M. Thelvell
Principal Director
Ministry of Mining and Natural Resources
Natural Resource Conservation Department
P.O. Box 367
Kingston 6, Jamaica
West Indies

Attended Inter-regional Seminar on Development and Management of Resources of Coastal Areas. Delivered lecture on coastal resource management and economic development. Chaired a working group.

Jamaica

194

Jamaica

INT77-07746-T [1977]

Sugar Cane

Brian S. Middleditch
Department of Biophysical
Sciences
University of Houston-
Central Campus
Houston, Texas 77004

Ian Sangster, Director
Sugar Industry Research
Institute
P.O. Box 127
Kingston 10, Jamaica
West Indies

Henry I.C. Lowe, Head
Science Department
College of Arts, Science
and Technology
Kingston 6, Jamaica
West Indies

Instituted collaborative research projects regarding use of sugar cane by-products, fiberboard production, cane wax utilization, palm oils, and glaucoma treatment. Established plans for collaborative research on crustacean mariculture and solar energy.

195

Jamaica

INT77-07748-R/T [1977]

Biology

Allen C. Waiss
Department of Molecular
Biology and Microbiology
Tufts University
School of Medicine
Boston, Massachusetts 02155

Ivan Goodbody, Dean
Faculty of Natural Science
and E.V. Ellington, Head
Department of Biochemistry
University of the West Indies
Mona, Kingston 7, Jamaica
West Indies

George Proctor, Head
Natural History Division
Institute of Jamaica
Kingston, Jamaica
West Indies

Conducted study of biological control of algal blooms through action of phage infecting Halobacterium.

196

Jamaica

INT78-06254-R/T [1978]

Coastal Resource Management

John M. Armstrong, Director
Coastal Zone Laboratory
University of Michigan
Ann Arbor, Michigan 48109

Richard M. Thelvell, Principal Director
Ministry of Mining and Natural Resources
Natural Resource Conservation Department
P.O. Box 367
Kingston 6, Jamaica
West Indies

Defined and structured research on resolving key coastal resource management problems.

87

197

Jamaica

INT78-06600-R/T [1978]

Microbiology

Allen C. Wais
 Department of Molecular
 Biology and Microbiology
 Tufts University
 School of Medicine
 Boston,
 Massachusetts 02155

G.H. Sidrak, Dean
 Faculty of Natural Sciences
 Department of Botany
 University of the
 West Indies
 Mona, Kingston 7, Jamaica
 West Indies

George Proctor, Head
 Natural History Division
 Institute of Jamaica
 Kingston, Jamaica
 West Indies

Initiated studies of bacteriological population ecology in certain Jamaican salt ponds. Presented lectures, seminars, and source materials and developed curriculum in microbiology and related fields.

198

Mexico

P2F0252-T [1972]

Economic Geology

Kenneth F. Clark
 Department of Economic
 Geology and Geophysics
 University of Iowa
 Iowa City, Iowa 52240

Diego A. Cordoba, Director
 Institute of Geology
 National Independent University of Mexico
 P.O. Box 70-296
 Mexico 20, D.F., Mexico

Collaborated with Mexican Geological Survey on study of economic geology of mineral resources.

Clark, Kenneth F. and Duskin, D.J. "Geology and Mineralization of the Ocoroni District, Sinaloa, Mexico," Geological Society of Mexico 34(1 and 2):43-61, 1972.

199

Mexico

OIP74-19809-T [1974]

Psychiatry and Pharmacology

John R. Smythies
 Neurosciences Programs
 Department of Psychiatry
 University of Alabama-Birmingham
 Medical Center
 Birmingham, Alabama 35294

Jose Carranza
 Division of Pharmacology
 Department of Scientific Investigation
 Mexican Institute of Social Security
 P.O. Box 73-032
 Mexico 73, Mexico

Conducted intensive research-oriented seminar/workshop on amphetamines, methionine, and schizophrenia.

200

Panama

INT77-05673-R/T [1977]

Medicinal Plants

Surendar S. Lamba
School of Pharmacy
Florida Agricultural and
Mechanical University
Tallahassee, Florida 32307

Mahabir P. Gupta
Department of Pharmacology
University of Panama
Panama

Analyzed drug plant *Cephaelis ipecachuana* and other medicinally useful plants. Trained local personnel in phytochemical research and plant tissue culture techniques. Prepared publication on native uses of plants for various ailments.

201

Panama

INT80-06356-R/T [1980]

Food Preservation

Mir N. Islam
Department of Food Science
and Human Nutrition
University of Delaware
Newark, Delaware 19711

Ceferino Sanchez
Vice Rector for Academic
Affairs
Faculty of Agronomy
University of Panama
University Post Office
Panama

Richard Pretto, Director
Ministry of Farm Development
National Administration
of Agriculture
Panama

Assisted in developing food preservation program. Tested capability of two food preservatives he produced, a fungicide and a bactericide. Developed technical curriculum. Gathered data on food production, postharvest practices and losses, and Panamanian policy on postharvest conservation. Trained students in various aspects of postharvest food preservation systems. Conducted research on food preservatives.

202

Peru

P3F0161-R/T [1973]

Mechanical Engineering

Kenneth E. Rose
Department of Mechanical Engineering
University of Kansas
3008 Learned Hall
Lawrence, Kansas 66045

Antonio Pinilla, Rector
University of Lima
Prolong Av. Javier Prado s/n Monterrico
P.O. Box 852
Lima, Peru

Assisted with curriculum design and development, teacher training, and laboratory demonstrations in metallurgy, steel making and chemical process engineering.

203

Peru

OIP74-09020-R/T [1974]

Potato Technology

Norman R. Thompson
Department of Crop and Soil Sciences
Michigan State University
East Lansing, Michigan 48824

Norman Sawyer, Director General
International Potato Center
Lima, Peru

Explored ways of enhancing usefulness of potato as dietary element. Identified potato varieties with high protein and balanced amino acid components. Developed improved techniques for processing potatoes locally. Improved techniques for evaluating nutritional value of potato samples. Evaluated toxicity levels in different varieties of potato.

Thompson, Norman R., Rowe, R.W., and Ezeta, F.M. "Breeding Potatoes to Increase the Nutritive Value." Presented at the Annual Meeting of the Potato Association of America, 1976.

Christansen, J.A. and Thompson, Norman R. "Utilizacion de las "Papos Amargas" en los Tropicos Frio de Latin America," August 1976.

Thompson, Norman R., Wurster, R.T., and Sayre, K.D. "Utilization of the Potato in the Tropics." Presented at the Tropical Root Crop Symposium, 1976.

204

Peru

INT78-04623-T [1978]

Archaeological Textiles

Solomon P. Hersh
Department of Textile
Materials and Management
North Carolina State
University-Raleigh
Box 5006
Raleigh,
North Carolina 27650

Jaime Ariansen
Peruvian Association
for Technical Textiles
Urbanization Corpac
Casilla 11003, Sta. Beatriz
Lima, Peru

Mirko R. Costa
Textiles Factory
La Union, Ltd.
Casilla 2066
Lima, Peru

Established plans for collaborative research and exchanged experiences with foreign scientists regarding conserving archaeological textiles. Presented papers at textile association conference. Interacted with institutions associated with textile industry.

205

Peru

INT78-24294-R/T [1978]

Economics

Richard Weisskoff
Department of Economics
Iowa State University of
Science and Technology
Ames, Iowa 50011

Efrain Gonzales, Director
Center for Socioeconomic Research
National University of San Antonio
Abad of Cuzco
Cuzco, Peru

Collaborated on project on economy of Sierra to be researched in highlands zones. Investigated causes of poverty among Southern Andean Indian communities. Collected data on changes in relative prices, employment, income and spending, and migration. Investigated changes in terms of trade, minifundia efficiency, and possible improvements in appropriate technology.

206

Peru

INT79-18573-T [1979]

Earthquake Engineering

W.O. Keightley
Department of Civil Engineering
Montana State University
Bozeman, Montana 59715

Julio Vargas Neumann
Department of Engineering
Structures Laboratory
Catholic University of Peru
P.O. Box 12534
Lima, Peru

Evaluated earthquake engineering research. Explored research opportunities regarding improving earthquake resistance of adobe houses. Initiated work on reinforced plasters for strengthening existing adobe.

207

Trinidad

Travel [1974]

Statistics

Norman R. Draper
Department of Statistics
University of Wisconsin-Madison
1210 West Dayton Street
Madison, Wisconsin 53706

University of the West Indies
St. Augustine, Trinidad
West Indies

Provided consultation on local field experiments and statistical problems.

208

Trinidad

INT76-10310-T [1976]

Sesame Breeding

Demetrios M. Yermanos
 Department of Plant Sciences
 University of California-Riverside
 Riverside, California 92521

Trinidad State Agriculture Station
 Trinidad-Tobago, Trinidad
 West Indies

Assisted in improving vegetable oil crops through experimental planting and evaluating selected varieties of sesame seeds. Presented seminars on sesame research. Planned follow-up sesame-breeding program.

209

Venezuela

P3F0121-R/T [1973]

Ecology

Boyd D. Collier
 Department of Biology
 California State University-San Diego
 San Diego, California 92115

Gilberto Rodriguez, Head
 and Jorge E. Rabinovich
 Department of Ecology
 Venezuelan Institute of Scientific
 Investigations
 P.O. Box 1827
 Caracas 101, Venezuela

Conducted research on disease carriers of insects (Triatominae) causing Chagas disease by obtaining data for constructing energy budget and computer simulation model. Presented seminars on systems ecology.

Collier, Boyd D., Bosque, C., Rodriguez, E., and Rabinovich, J.E. "The Energy Budget of Triatoma Phyllosoma (Hemiptera: Reduviidae) under Laboratory Conditions," Journal of Medical Entomology 14:425-433, 1977.

Collier, Boyd D., Rabinovich, R.E., Bosque, C., and Rodriguez, E. "An Energy Budget for Rhodnius Prolixus (Hemiptera: Reduviidae) under Laboratory Conditions," Journal of Medical Entomology 18(4):257-265, July 1981.

210

Venezuela

P4F0319-T [1974]

Pharmaceutical Stability

J. Keith Guillory
 College of Pharmacy
 University of Iowa
 Iowa City, Iowa 52240

Ernesto Diaz-Montez, Dean
 Faculty of Pharmacy
 Central University
 Caracas, Venezuela

Presented series of lectures on pharmaceutical stability. Conducted seminars on contemporary research problems.

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Multi-country

211

Peru, Brazil, Colombia
Ecuador, Venezuela

Hunter Rouse
College of Engineering
University of Iowa
Iowa City, Iowa 52240

P2F0258-T [1972]

Guillermo Regalado
Faculty of Hydraulics
Department of Civil
Engineering
University of Valle
Apartado Aereo 2136
Cali, Colombia

Hydraulics

Rui Carlos de Camargo Vieira
Department of Hydraulics
Engineering School of
Sao Carlos
University of Sao Paulo
Sao Paulo, Brazil

Carlos E. Quevado, Head
Department of Mechanical
Engineering
National Polytechnic School
P.O. Box 2759
Quito, Ecuador

Alberto Lizarraide
Director
National Laboratory
of Hydraulics
P.O. Box 2035
Caracas, Venezuela

Bernado Fernandez Velasquez
Academic Vice Rector
National University
of Engineering
Lima, Peru

Presented lectures on movable-bed models, engineering education, sediment transport, hydraulic models, Bernoulli theorem, eddy motion, hydraulic history, and human ecology. Participated in radio and television broadcasts.

212

Mexico, Colombia, Peru,
Argentina, Brazil

Victor W. Goldschmidt
School of Mechanical
Engineering
Purdue University
West Lafayette,
Indiana 47907

P3F0189-T [1973]

F. Vera
School of Engineering
and Sciences
Technological Institute of
Higher Studies of Monterrey
Monterrey, Mexico

Mechanical Engineering

A.L. Coimbra, Coordinator
Postgraduate Programs
in Engineering
Federal University of
Rio de Janeiro
Rio de Janeiro, Brazil

Antonio Marin
Faculty of Engineering
University of Buenos Aires
Buenos Aires, Argentina

Roberto Jaimes, Vice Rector
and Alvara Garcia, Coordinator
of Academic Exchange
Apartado Aereo 678
Bucaramanga, Colombia

Carlos del Rio, Director
National University of
Engineering
Lima, Peru

Taught course in pollution and turbulent transport. Offered seminars on relationships between professional societies, graduate education, and research.

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Peru, Ecuador,
Jamaica, Brazil

P3F0104-T [1973]

Electrical Engineering

John Derald Morgan
Department of Electrical
Engineering
University of Missouri
Rolla, Missouri 65401

Victor Mandini, Chair
Juan Savaedra, Chair
Homero Ortiz Egas, Rector
Higher Polytechnic School
of the Coast
P.O. Box 5863
Guayaquil, Ecuador

Arthur B. Dietrich
and Noel Holmes
Jamaica Public Service
Company, Ltd.
151 Orange Street
Kingston, Jamaica
West Indies

Armando Mendex, Sub Rector
and Adriano Menezes
Federal University of Para
Belem, Para, Brazil

David Grandez Gomez
Department of Electrical
Engineering
National University of
Engineering
Lima, Peru

Presented seminar on computer methods in power systems analysis. Studied Electrical Engineering Power Program's curriculum, library, research programs, faculty, laboratory equipment, facilities, and experiments.

Colombia, Brazil, Peru

P3F0114-T [1973]

Engineering Education

T. Paul Torda
Education and Experience
in Engineering Program
Illinois Institute
of Technology
Chicago, Illinois 60616

Carlos J. Amaya, Dean and
Eduardo Aldaua, Vice Rector
Faculty of Engineering
University of Los Andes
Apartado Aereo 4976
Bogota, Colombia

Manoel Luis Leo, Head
University Computer Center
Anderson Moreira da Rocha
Director, Engineering School
Federal University of
Rio de Janeiro
Rio de Janeiro, Brazil

Gabriel Aya
Director of Coordination
Industrial University
of Santander
Apartado Aereo 678
Bucaramanga, Colombia

Jose Roosevelt Pereira
Department of Civil
Engineering
Federal University of
Juiz de Fora
Belo Horizonte, Brazil

Tetno Hara
Department of Agricultural
Engineering
Federal University of Vicosa
Chogada, Belo Horizonte,
Brazil

Haroldo Brasil, Director
Polytechnic Institute
Catholic University of
Minas Gerais
Minas Gerais, Brazil

Jorge Devia, Dean
University of Antioquia
Medellin, Colombia

Cesar Sotillo, Director
National University
of Engineering
Lima, Peru

Rudolfo-Low-Maus
Bogota, Colombia

Held several lectures and informal meetings on Education and Experience in Engineering (E³) program.

215

Brazil, Chile

OIP74-10329-T [1974]

Ceramic Engineering

William J. Knapp
School of Engineering and
Applied Science
University of California-
Los Angeles
6532 Boelter Hall
Los Angeles,
California 90024

J.H. Castro
Department of Materials
Engineering
Federal University of
Sao Carlos
Sao Carlos, S.P., Brazil

J.H. Castro
Institute for Investigation
and Evaluation of Materials
University of Chile
Cx. Postal 384
Santiago, Chile

Continued research study of clays used for manufacturing lightweight aggregate. Provided consultation on curriculum development concerning materials engineering, ceramic engineering, ceramic material research, and energy system materials. Participated in several seminars and symposia.

Castro J.H. and Knapp, William J. "Caracteristicas da Micro Estructura da Argila Expandida (Characteristics of the Structure of Expanded Clays)," Ceramica Brasileira 1(11):271, 1976.

Kittl, P., Castro, J.H., and Knapp, William J. "Strength in Bending of Electrical Porcelain," Journal of American Ceramic Society, no date.

216

Colombia, Ecuador

P4F0233-T [1974]

Physics

Andres F. Rodriguez
Department of Physics
University of the Pacific
Stockton, California 95211

Guillermo Castillo
President
Colombian Physics Society
Apartado Aereo 16776
Bogota, D.E., Colombia

Luis Valveide Lopez
Executive Director
Commission of Educational
Exchange
Fulbright Commission
Av. 10 de Agosto 18324
Roca, P.O. Box 722
Quito, Ecuador

Jorge Hoyos, Rector
Pontificia Universidad
Javeriana
Carrera 7a, No. 40-62
Bogota, Colombia

Conducted seminars on new trends in physics teaching. Provided consultation on expanded educational exchanges.

Rodriguez, Andres F. and Amezcua, Mario. New Trends in Physics Teaching, Volume III. Bogota: Universidad Javeriana, 1974.

Rodriguez, Andres F. "New Trends in Physics Teaching in Colombia," AAPT Announcer (American Association of Physics Teachers) 4(4), December 1974.

Multi-country

Rodriguez, Andres F. and Amezquita, Mario. "A Bilingual Approach to the Personalized System of Instruction," AAPT Announcer (American Association of Physics Teachers) 7(4), December 1975.

Rodriguez, Andres F. and Torres, Fanny M. "On the Usage of Videotapes as Teaching Aids in the Physics Laboratory," AAPT Announcer (American Association of Physics Teachers) 6(2), May 1976.

Rodriguez, Andres F. and Merner, Mark. "An Example of a New Method Using Videotapes in Physics Laboratory Instruction," AAPT Announcer (American Association of Physics Teachers) 6(4), 1976.

Rodriguez, Andres F. "An Introductory Student-paced Oriented Course for Science and Engineering Students," Addendum to AAPT Announcer (American Association of Physics Teachers) 7(4), 1978.

217

Brazil, Peru, Colombia

OIP75-06919-T [1975]

Hydraulics

Hsieh Wen Shen
Department of Civil Engineering
Engineering Research Center
Colorado State University
Fort Collins, Colorado 80523

Rui Carlos de Camargo Vieira, Head
Department of Hydraulic and
Sanitary Engineering
Engineering School of Sao Carlos
University of Sao Paulo
Sao Paulo, Brazil

Conducted series of seminars and lectures on river mechanics. Reviewed research projects concerning sedimentation, reservoir surveys, meandering mechanics, and mathematical modeling for erosion process. Provided consultation on design of sediment flume and measuring system for new hydraulics laboratory. Delivered paper on propagation velocity of sand waves at 16th Congress of International Association for Hydraulic Research.

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Colombia, Ecuador

Travel [1976]

Biochemical Engineering

Marvin Charles
Department of Chemical Engineering
Lehigh University
Bethlehem, Pennsylvania 18015

Planned biochemical engineering projects for upgrading food supplies and recycling waste materials.

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Latin America

INT76-23775-T [1976]

Chemistry

Jose D. Gomez-Ibanez
Department of Chemistry
Wesleyan University
Middletown, Connecticut 06457

Presented lecture at Twelfth Latin American Congress on Chemistry.

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Costa Rica, Mexico,
Nicaragua, Honduras,
Guatemala

INT78-05869-T [1978]

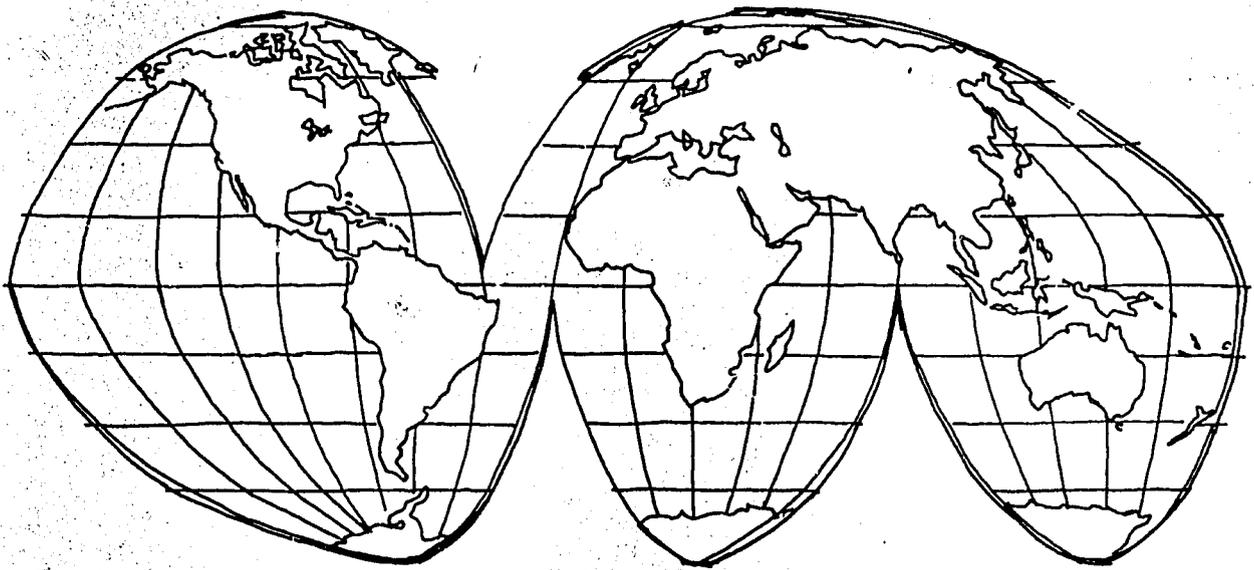
Oceanography

Victor T. Neal
School of Oceanography
Oregon State University
Corvallis, Oregon 97331

Fernando Rivera, Dean
Faculty of Earth and Marine Sciences
National University
Heredia, Costa Rica

Assisted in planning marine science programs. Assessed marine science needs and various resource developments. Presented seminars on practical value of oceanographic work and on training and education for professional oceanographers. Provided consultation on developing marine science research group, on modifying vessel for oceanographic work, and on viable physical oceanography research projects.

Multi-continent



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Trinidad, Colombia, Nigeria	INT76-10717-T [1976]	Cowpea Viruses
Robert F. Bozarth Department of Life Science Indiana State University Terre Haute, Indiana 47809	David J. Allen International Institute of Tropical Agriculture Oyo Road, P.M.B. 5320 Ibaden, Nigeria	S.Q. Hague, Virologist Carribean Agricultural Research Development Institute (C.A.R.D.I.) V.W. 1 St. Augustine, Trinidad West Indies
	Guillermo E. Galvez International Center for Tropical Agriculture Palmira, Colombia	

Established collaborative network of scientists working on control of cowpea virus diseases.

Shoyinka, S.A., Bozarth, Robert F., Reese, J., and Rossel, H.W. "Cowpea Mottle Virus: A Seedborne Virus with Distinctive Properties Infecting Cowpeas in Nigeria," Phytopathology 68:693-699, 1978.

Bozarth, Robert F. and Shoyinka, S.A. "Cowpea Mottle Virus. CMI/AAB Descriptions of Plant Viruses," Commonwealth Mycological Institute 12(212), 1979.

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Philippines, Australia	OIP76-12225-R/T [1976]	Agriculture
Harlan K. Pratt Department of Vegetable Crops University of California- Davis Davis, California 95616	D.B. Mendoza, Jr. College of Agriculture University of the Philippines at Los Banos College Laguna, Philippines	R.B.H. Wills Consultant to ASEAN Asian Food Handling Project c/o School of Food Technology P.O. Box 1 Kensington, NSN 2033 Australia

Helped establish local research and training program in postharvest physiology of fruits and vegetables. Improved understanding of commercially important tropical fruit. Designed and demonstrated making of equipment and calibrated apparatus. Planned and conducted experiments. Presented lectures on laboratory practices, postharvest physiology, and horticulture.

Pratt, Harlan K. and Mendoza, D.B. "Colorimetric Determination of Carbon Dioxide for Respiration Studies," HortScience 14:175-176, 1979.

Pratt, Harlan K. and Mendoza, D.B. "Influence of Fruit Removal on Growth and Ripening of the Cashew Apple," Journal of the American Society for Horticultural Science 105:540-542, 1980.

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Multi-continent

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Latin America, Korea,
Indonesia, United States

INT77-20880-R/T [1977]

SEED Evaluation

Charles V. Kidd
Association of American Universities
Washington, DC 20036

Performed evaluation study of Scientists and Engineers in Economic
Development (SEED) Program.

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